



# SAR TEST REPORT

No. I20Z61861-SEM02

For

**Hoyos Integrity Corporation**

**smart phone**

**Model name: H1U**

With

**Hardware Version: V1.2**

**Software Version: P612BNV03.12.10**

**FCC ID: 2AXQJH1U**

**Issued Date: 2021-1-16**

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**REPORT HISTORY**

<b>Report Number</b>	<b>Revision</b>	<b>Issue Date</b>	<b>Description</b>
I20Z61861-SEM02	Rev.0	2020-12-16	Initial creation of test report
I20Z61861-SEM02	Rev.1	2021-1-16	Update the information on section 2 of test report. Update the information on section 10.1 of test report. Update the Probe ConvF on page 125 and 146 of test report. Update the information on section 14 of test report.

## TABLE OF CONTENT

<b>1 TEST LABORATORY .....</b>	<b>5</b>
1.1 TESTING LOCATION .....	5
1.2 TESTING ENVIRONMENT.....	5
1.3 PROJECT DATA .....	5
1.4 SIGNATURE.....	5
<b>2 STATEMENT OF COMPLIANCE .....</b>	<b>6</b>
<b>3 CLIENT INFORMATION .....</b>	<b>9</b>
3.1 APPLICANT INFORMATION .....	9
3.2 MANUFACTURER INFORMATION .....	9
<b>4 EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE) .....</b>	<b>10</b>
4.1 ABOUT EUT .....	10
4.2 INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST.....	10
4.3 INTERNAL IDENTIFICATION OF AE USED DURING THE TEST .....	10
<b>5 TEST METHODOLOGY .....</b>	<b>11</b>
5.1 APPLICABLE LIMIT REGULATIONS.....	11
5.2 APPLICABLE MEASUREMENT STANDARDS .....	11
<b>6 SPECIFIC ABSORPTION RATE (SAR).....</b>	<b>12</b>
6.1 INTRODUCTION.....	12
6.2 SAR DEFINITION.....	12
<b>7 TISSUE SIMULATING LIQUIDS .....</b>	<b>13</b>
7.1 TARGETS FOR TISSUE SIMULATING LIQUID.....	13
7.2 DIELECTRIC PERFORMANCE .....	13
<b>8 SYSTEM VERIFICATION .....</b>	<b>18</b>
8.1 SYSTEM SETUP.....	18
8.2 SYSTEM VERIFICATION.....	19
<b>9 MEASUREMENT PROCEDURES .....</b>	<b>20</b>
9.1 TESTS TO BE PERFORMED .....	20
9.2 GENERAL MEASUREMENT PROCEDURE.....	21
9.3 WCDMA MEASUREMENT PROCEDURES FOR SAR .....	23
9.4 SAR MEASUREMENT FOR LTE.....	24
9.5 BLUETOOTH & WI-FI MEASUREMENT PROCEDURES FOR SAR .....	26
9.6 POWER DRIFT.....	26
<b>10 AREA SCAN BASED 1-G SAR.....</b>	<b>27</b>
10.1 REQUIREMENT OF KDB.....	27
10.2 FAST SAR ALGORITHMS .....	27

<b>11 CONDUCTED OUTPUT POWER</b> .....	<b>28</b>
11.1 GSM MEASUREMENT RESULT .....	28
11.2 WCDMA MEASUREMENT RESULT .....	31
11.3 LTE MEASUREMENT RESULT .....	32
11.4 WI-FI AND BT MEASUREMENT RESULT .....	58
<b>12 SIMULTANEOUS TX SAR CONSIDERATIONS</b> .....	<b>59</b>
12.1 INTRODUCTION.....	59
12.2 TRANSMIT ANTENNA SEPARATION DISTANCES.....	59
12.3 SAR MEASUREMENT POSITIONS .....	60
12.4 STANDALONE SAR TEST EXCLUSION CONSIDERATIONS .....	60
<b>13 EVALUATION OF SIMULTANEOUS</b> .....	<b>61</b>
<b>14 SAR TEST RESULT</b> .....	<b>62</b>
14.1 SAR RESULTS FOR FAST SAR (MAIN ANTENNA) .....	63
14.2 SAR RESULTS FOR STANDARD PROCEDURE (MAIN ANTENNA) .....	74
14.3 SAR RESULTS FOR FAST SAR (DIVERSITY ANTENNA).....	79
14.4 SAR RESULTS FOR STANDARD PROCEDURE (DIVERSITY ANTENNA) .....	88
14.5 WLAN EVALUATION FOR 2.4G .....	93
14.6 WLAN EVALUATION FOR 5G.....	96
14.7 SAR RESULTS FOR FAST BT .....	101
<b>15 SAR MEASUREMENT VARIABILITY</b> .....	<b>102</b>
<b>16 MEASUREMENT UNCERTAINTY</b> .....	<b>104</b>
16.1 MEASUREMENT UNCERTAINTY FOR NORMAL SAR TESTS (300MHZ~3GHZ).....	104
16.2 MEASUREMENT UNCERTAINTY FOR NORMAL SAR TESTS (3~6GHZ) .....	105
16.3 MEASUREMENT UNCERTAINTY FOR FAST SAR TESTS (300MHZ~3GHZ).....	106
16.4 MEASUREMENT UNCERTAINTY FOR FAST SAR TESTS (3~6GHZ) .....	107
<b>17 MAIN TEST INSTRUMENTS</b> .....	<b>108</b>
<b>ANNEX A GRAPH RESULTS</b> .....	<b>109</b>
<b>ANNEX B SYSTEM VERIFICATION RESULTS</b> .....	<b>173</b>
<b>ANNEX C SAR MEASUREMENT SETUP</b> .....	<b>188</b>
<b>ANNEX D POSITION OF THE WIRELESS DEVICE IN RELATION TO THE PHANTOM</b> .....	<b>194</b>
<b>ANNEX E EQUIVALENT MEDIA RECIPES</b> .....	<b>197</b>
<b>ANNEX F SYSTEM VALIDATION</b> .....	<b>198</b>
<b>ANNEX G PROBE CALIBRATION CERTIFICATE</b> .....	<b>199</b>
<b>ANNEX H DIPOLE CALIBRATION CERTIFICATE</b> .....	<b>222</b>
<b>ANNEX I ACCREDITATION CERTIFICATE</b> .....	<b>293</b>

## 1 Test Laboratory

### 1.1 Testing Location

Company Name:	CTTL(Shouxiang)
Address:	No. 51 Shouxiang Science Building, Xueyuan Road, Haidian District, Beijing, P. R. China100191

### 1.2 Testing Environment

Temperature:	18°C~25°C,
Relative humidity:	30%~ 70%
Ground system resistance:	< 0.5 $\Omega$
Ambient noise & Reflection:	< 0.012 W/kg

### 1.3 Project Data

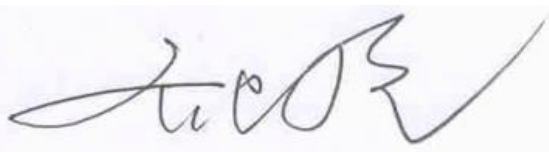
Project Leader:	Qi Dianyuan
Test Engineer:	Lin Xiaojun
Testing Start Date:	November 13, 2020
Testing End Date:	November 27, 2020

### 1.4 Signature



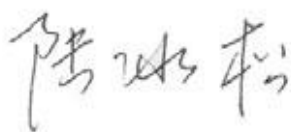
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Lin Xiaojun  
(Prepared this test report)



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Qi Dianyuan  
(Reviewed this test report)



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Lu Bingsong  
Deputy Director of the laboratory  
(Approved this test report)

## 2 Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for Hoyos Integrity Corporation smart phone H1U are as follows:

**Table 2.1: Highest Reported SAR (1g)**

Exposure Configuration	Technology Band	Highest Reported SAR 1g(W/kg)	Equipment Class
Head (Separation Distance 0mm) Main Antenna	GSM 850	0.17	PCE
	PCS 1900	0.12	
	UMTS FDD 2	0.14	
	UMTS FDD 5	0.14	
	LTE Band 2	0.18	
	LTE Band 5	0.14	
	LTE Band 7	0.06	
	LTE Band 12	0.11	
	LTE Band 41	0.02	
	LTE Band 66	0.14	
Hotspot (Separation Distance 10mm) Main Antenna	GSM 850	0.44	PCE
	PCS 1900	0.81	
	UMTS FDD 2	1.02	
	UMTS FDD 5	0.20	
	LTE Band 2	1.15	
	LTE Band 5	0.24	
	LTE Band 7	1.10	
	LTE Band 12	0.28	
	LTE Band 41	0.28	
	LTE Band 66	<b>1.21</b>	
Body-worn (Separation Distance 15mm) Main Antenna	PCS 1900	0.68	PCE
	UMTS FDD 2	0.70	
	LTE Band 2	0.34	
	LTE Band 66	0.84	
Head (Separation Distance 0mm) Diversity Antenna	GSM 850	1.00	PCE
	PCS 1900	0.45	
	UMTS FDD 2	0.40	
	UMTS FDD 5	0.35	
	LTE Band 2	0.58	
	LTE Band 5	0.65	
	LTE Band 7	0.90	
	LTE Band 12	0.17	
	LTE Band 41	0.98	
	LTE Band 66	0.61	
Hotspot (Separation Distance 10mm) Diversity Antenna	GSM 850	0.29	PCE
	PCS 1900	0.68	
	UMTS FDD 2	0.57	
	UMTS FDD 5	0.17	
	LTE Band 2	0.57	
	LTE Band 5	0.23	

	LTE Band 7	0.68	
	LTE Band 12	0.05	
	LTE Band 41	0.40	
	LTE Band 66	0.32	
Head (Separation Distance 0mm)	WLAN 2.4 GHz	0.57	DTS
	WLAN 5 GHz	0.96	NII
Hotspot (Separation Distance 10mm)	WLAN 2.4 GHz	0.21	DTS
	WLAN 5 GHz	0.48	NII

The SAR values found for the Mobile Phone are below the maximum recommended levels of 1.6 W/kg as averaged over any 1g tissue according to the ANSI C95.1-1992.

For body operation, this device has been tested and meets FCC RF exposure guidelines when used with any accessory that contains no metal and which provides a minimum separation distance of 10 mm for hotspot and 15mm for body worn between this device and the body of the user. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output.

The measurement together with the test system set-up is described in annex C of this test report. A detailed description of the equipment under test can be found in chapter 4 of this test report. The highest reported SAR value is obtained at the case of (**Table 2.1**), and the values are:**1.21 W/kg(1g)**.

**Table 2.2: The sum of reported SAR values for Main antenna and WiFi-2.4G**

	Position	Cellular antenna	WiFi2.4G	Sum
<b>Highest reported SAR value for Head</b>	Right hand, Cheek	0.18	0.55	<b>0.73</b>
<b>Highest reported SAR value for Body</b>	Rear 10mm	1.14	0.21	<b>1.35</b>

Note1: the test positions of above tables are for the worse case that have been evaluated.

**Table 2.3: The sum of reported SAR values for Main antenna + WiFi-5G+BT**

	Position	Cellular antenna	WiFi5G	BT	Sum
<b>Highest reported SAR value for Head</b>	Right hand, Tilt	0.10	0.96	<0.01 <sup>[1]</sup>	<b>1.06</b>
<b>Maximum reported SAR value for Body</b>	Rear 10mm	1.14	0.39	<0.01 <sup>[1]</sup>	<b>1.53</b>

Note1: the test positions of above tables are for the worse case that have been evaluated.

[1] – The SAR of BT is too low to get it, so the “<0.01” is used to indicate the head and body SAR of BT.

**Table 2.4: The sum of reported SAR values for Diversity antenna and WiFi-2.4G**

	Position	Cellular antenna	WiFi2.4G	Sum
<b>Highest reported SAR value for Head</b>	Left hand, Tilt	1.00	0.19	<b>1.19</b>
<b>Highest reported SAR value for Body</b>	Rear 10mm	0.68	0.21	<b>0.89</b>

Note1: the test positions of above tables are for the worse case that have been evaluated.

**Table 2.5: The sum of reported SAR values for Diversity antenna + WiFi-5G+BT**

	Position	Cellular antenna	WiFi5G	BT	Sum
<b>Highest reported SAR value for Head</b>	Right hand, Tilt	0.58	0.96	<0.01 <sup>[1]</sup>	<b>1.54</b>
<b>Maximum reported SAR value for Body</b>	Rear 10mm	0.68	0.39	<0.01 <sup>[1]</sup>	<b>1.07</b>

Note1: the test positions of above tables are for the worse case that have been evaluated.

[1] – The SAR of BT is too low to get it, so the “<0.01” is used to indicate the head and body SAR of BT.

According to the above tables, the highest sum of reported SAR values is **1.54 W/kg (1g)**. The detail for simultaneous transmission consideration is described in chapter 13.

According to the KDB648474 D04, the UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at  $\leq 25$  mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB Publication 865664 D01 to address interactive hand use exposure conditions. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg

**Table 2.6: 0mm Reported SAR for phablet (10g)**

Exposure Configuration	Technology Band	Highest Reported SAR 10g(W/kg)	Limit 10g (W/kg)
10g extremity SAR (Separation Distance 0mm)	GSM1900	3.32	4.0
	UMTS FDD 2	3.13	4.0
	LTE Band2	3.10	4.0
	LTE Band66	3.74	4.0





### 3 Client Information

#### 3.1 Applicant Information

Company Name:	Hoyos Integrity Corporation
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#### 3.2 Manufacturer Information

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Address/Post:	1975 E. Sunrise Blvd, Suite 400, Fort Lauderdale, Florida, USA
Contact Person:	Juan Alvarez
E-mail:	juan.alvarez@hoyosintegrity.com
Telephone:	9546008131
Fax:	8557488051

## 4 Equipment Under Test (EUT) and Ancillary Equipment (AE)

### 4.1 About EUT

Description:	smart phone
Model name:	H1U
Operating mode(s):	GSM850/900/1800/1900, WCDMA850/900/1900/2100 LTE Band1/2/3/4/5/7/12/17/28/38/40/41/66, BT, Wi-Fi(2.4/5G),
Tested Tx Frequency:	824 – 849 MHz (GSM 850)
	1850 – 1910 MHz (GSM 1900)
	824–849 MHz (WCDMA 850 Band V)
	1850–1910 MHz (WCDMA1900 Band II)
	1850.7 –1909.3 MHz (LTE Band 2)
	824 – 849 MHz (LTE Band 5)
	2502.5 – 2567.5 MHz(LTE Band 7)
	699.7 – 715.3 MHz (LTE Band 12)
	2498.5 – 2687.5 MHz (LTE Band 41)
	1710.7 – 1779.3 MHz (LTE Band 66)
2412 – 2462 MHz (Wi-Fi 2.4G)	
5150-5825 MHz (Wi-Fi 5G)	
GPRS/EGPRS Multislot Class:	12
GPRS capability Class:	B
Test device Production information:	Production unit
Device type:	Portable device
Antenna type:	Integrated antenna
Accessories/Body-worn configurations:	Headset
Hotspot mode:	Support

### 4.2 Internal Identification of EUT used during the test

EUT ID*	IMEI	HW	SW Version
EUT1	351818530001007/351818530003649	V1.2	P612BNV03.12.10
EUT2	351818530000991/351818530003631	V1.2	P612BNV03.12.10
EUT3	351818530001072/351818530003714	V1.2	P612BNV03.12.10
EUT4	351818530001023/351818530003664	V1.2	P612BNV03.12.10
EUT5	351818530001163/351818530003805	V1.2	P612BNV03.12.10
EUT6	350311290000942/350311290003581	V1.2	P612BNV03.12.10

\*EUT ID: is used to identify the test sample in the lab internally.

**Note:** It is performed to test SAR with the EUT1&2&3&4 and conducted power with the EUT5&6.

### 4.3 Internal Identification of AE used during the test

AE ID*	Description	Model	SN	Manufacturer
AE1	Battery	386786	/	Ningbo Veken Battery Co., Ltd.
AE2	Headset	HF-B1205-B	/	Guangdong Wivtak Technology Co., Ltd.

\*AE ID: is used to identify the test sample in the lab internally.

## 5 TEST METHODOLOGY

### 5.1 Applicable Limit Regulations

**ANSI C95.1–1992:** IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

It specifies the maximum exposure limit of **1.6 W/kg** as averaged over any 1 gram of tissue for portable devices being used within 20 cm of the user in the uncontrolled environment.

### 5.2 Applicable Measurement Standards

**IEEE 1528–2013:** Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.

**KDB447498 D01: General RF Exposure Guidance v06:** Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies.

**KDB648474 D04 Handset SAR v01r03:** SAR Evaluation Considerations for Wireless Handsets.

**KDB941225 D01 SAR test for 3G devices v03r01:** SAR Measurement Procedures for 3G Devices

**KDB941225 D05 SAR for LTE Devices v02r05:** SAR Evaluation Considerations for LTE Devices

**KDB941225 D06 Hotspot Mode SAR v02r01:** SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities

**KDB248227 D01 802.11 Wi-Fi SAR v02r02:** SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS

**KDB865664 D01 SAR measurement 100 MHz to 6 GHz v01r04:** SAR Measurement Requirements for 100 MHz to 6 GHz.

**KDB865664 D02 RF Exposure Reporting v01r02:** RF Exposure Compliance Reporting and Documentation Considerations

## 6 Specific Absorption Rate (SAR)

### 6.1 Introduction

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

### 6.2 SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy ( $dW$ ) absorbed by (dissipated in) an incremental mass ( $dm$ ) contained in a volume element ( $dv$ ) of a given density ( $\rho$ ). The equation description is as below:

$$SAR = \frac{d}{dt} \left( \frac{dW}{dm} \right) = \frac{d}{dt} \left( \frac{dW}{\rho dv} \right)$$

SAR is expressed in units of Watts per kilogram (W/kg)

SAR measurement can be either related to the temperature elevation in tissue by

$$SAR = c \left( \frac{\delta T}{\delta t} \right)$$

Where:  $C$  is the specific heat capacity,  $\delta T$  is the temperature rise and  $\delta t$  is the exposure duration, or related to the electrical field in the tissue by

$$SAR = \frac{\sigma |E|^2}{\rho}$$

Where:  $\sigma$  is the conductivity of the tissue,  $\rho$  is the mass density of tissue and  $E$  is the RMS electrical field strength.

However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

## 7 Tissue Simulating Liquids

### 7.1 Targets for tissue simulating liquid

**Table 7.1: Targets for tissue simulating liquid**

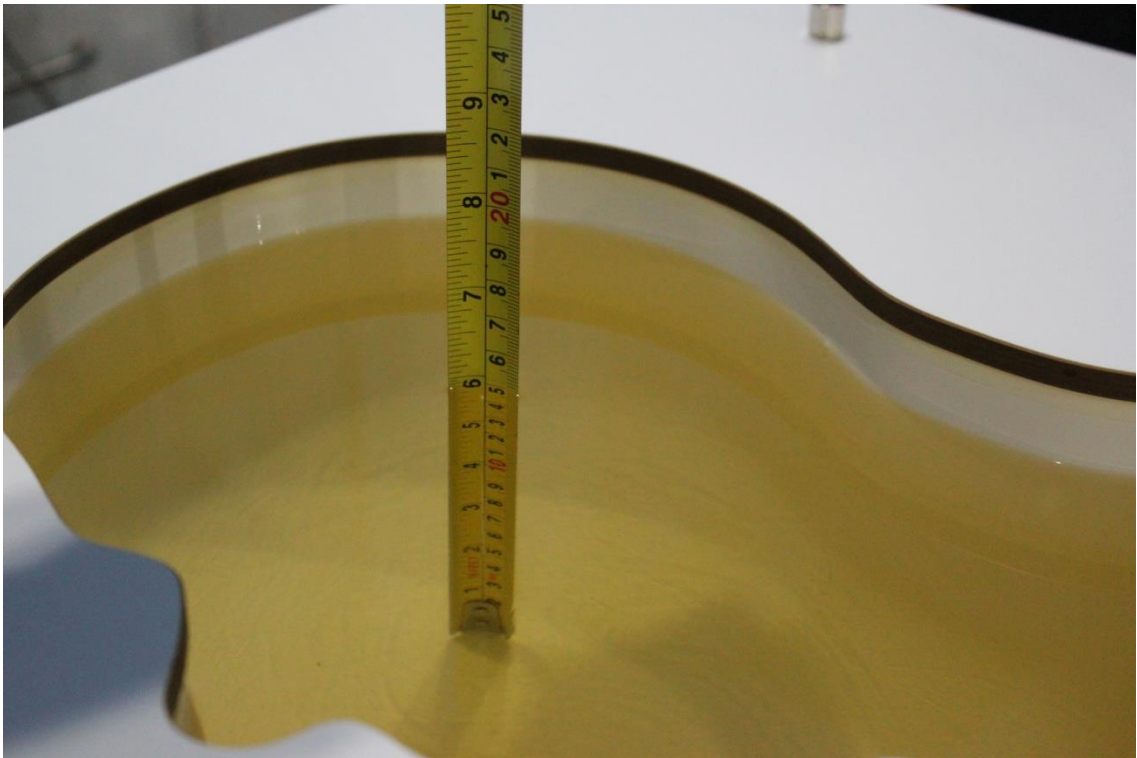
Frequency(MHz)	Liquid Type	Conductivity( $\sigma$ )	$\pm 5\%$ Range	Permittivity( $\epsilon$ )	$\pm 5\%$ Range
750	Head	0.89	0.85~0.93	41.94	39.8~44.0
835	Head	0.90	0.86~0.95	41.5	39.4~43.6
1750	Head	1.37	1.30~1.44	40.08	38.1~42.1
1900	Head	1.40	1.33~1.47	40.0	38.0~42.0
2450	Head	1.80	1.71~1.89	39.2	37.2~41.2
2600	Head	1.96	1.86~2.06	39.01	37.1~41.0
5250	Head	4.71	4.47~4.95	35.93	34.13~37.73
5600	Head	5.07	4.82~5.32	35.53	33.8~37.3
5750	Head	5.22	4.96~5.48	35.36	33.59~37.13

### 7.2 Dielectric Performance

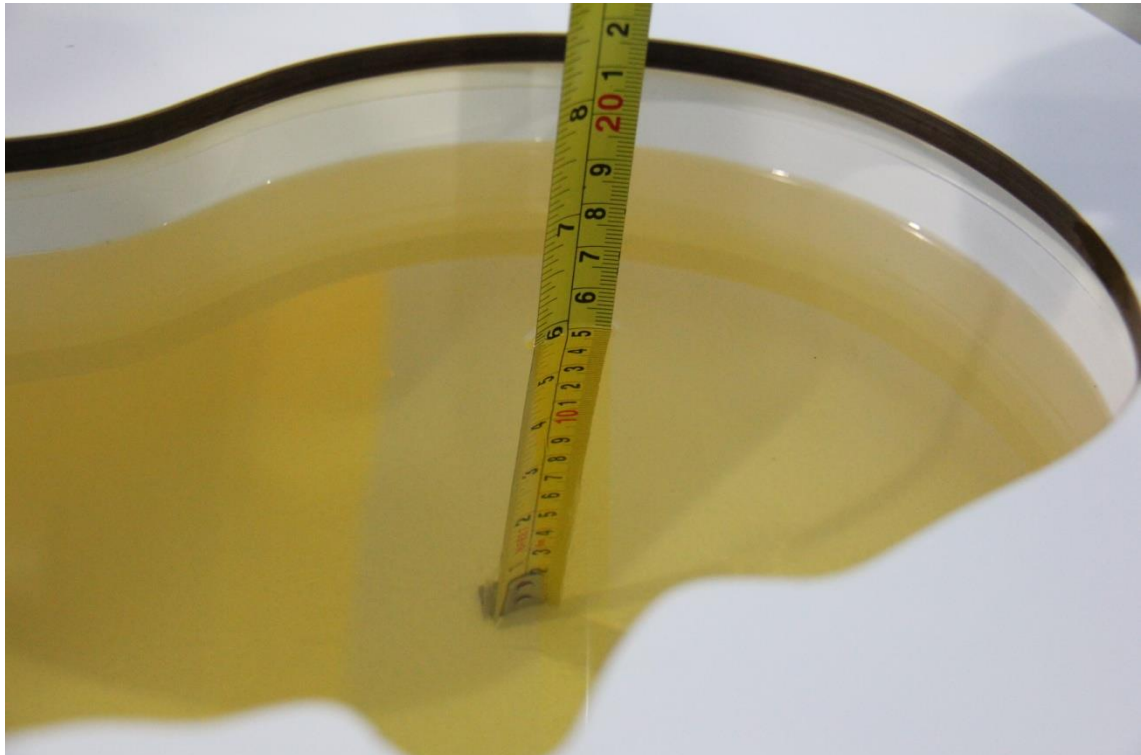
**Table 7.2: Dielectric Performance of Tissue Simulating Liquid**

Measurement Date (yyyy-mm-dd)	Type	Frequency	Permittivity $\epsilon$	Drift (%)	Conductivity $\sigma$ (S/m)	Drift (%)
2020/11/13	Head	750 MHz	41.93	-0.02	0.908	2.02
2020/11/14	Head	835 MHz	41.27	-0.55	0.89	-1.11
2020/11/15	Head	835 MHz	40.92	-1.40	0.898	-0.22
2020/11/16	Head	835 MHz	41.49	-0.02	0.918	2.00
2020/11/17	Head	1750 MHz	40.13	0.12	1.345	-1.82
2020/11/18	Head	1900 MHz	39.77	-0.57	1.413	0.93
2020/11/19	Head	1900 MHz	39.61	-0.98	1.387	-0.93
2020/11/20	Head	1900 MHz	39.78	-0.55	1.385	-1.07
2020/11/21	Head	2450 MHz	39.29	0.23	1.801	0.06
2020/11/22	Head	2600 MHz	39.6	1.51	1.974	0.71
2020/11/24	Head	2600 MHz	39.06	0.13	1.925	-1.79
2020/11/25	Head	5250 MHz	35.52	-1.14	4.677	-0.70
2020/11/26	Head	5600 MHz	35.39	-0.39	5.025	-0.89
2020/11/27	Head	5750 MHz	35.87	1.44	5.236	0.31

Note: The liquid temperature is 22.0°C



**Picture 7-1 Liquid depth in the Head Phantom (750MHz)**

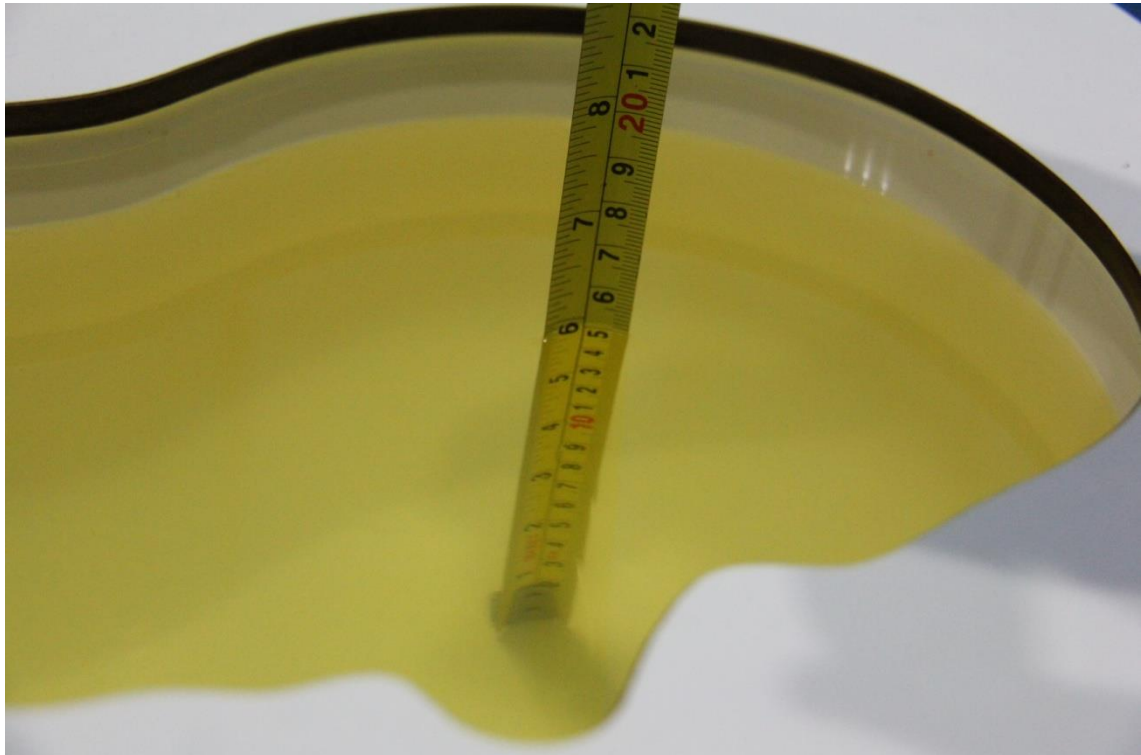


**Picture 7-2 Liquid depth in the Head Phantom (835 MHz)**

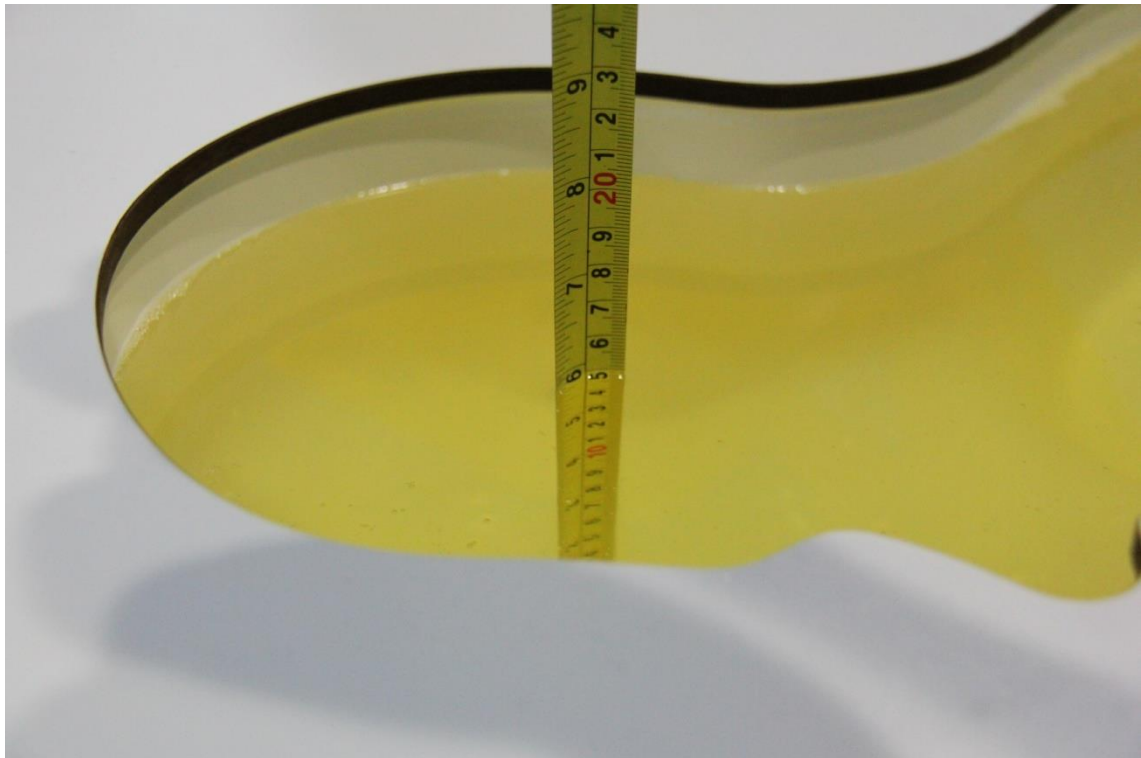




**Picture 7-3 Liquid depth in the Head Phantom (1750 MHz)**



**Picture 7-4 Liquid depth in the Head Phantom (1900 MHz)**



**Picture 7-5 Liquid depth in the Head Phantom (2450MHz)**



**Picture 7-6 Liquid depth in the Head Phantom (2600 MHz)**



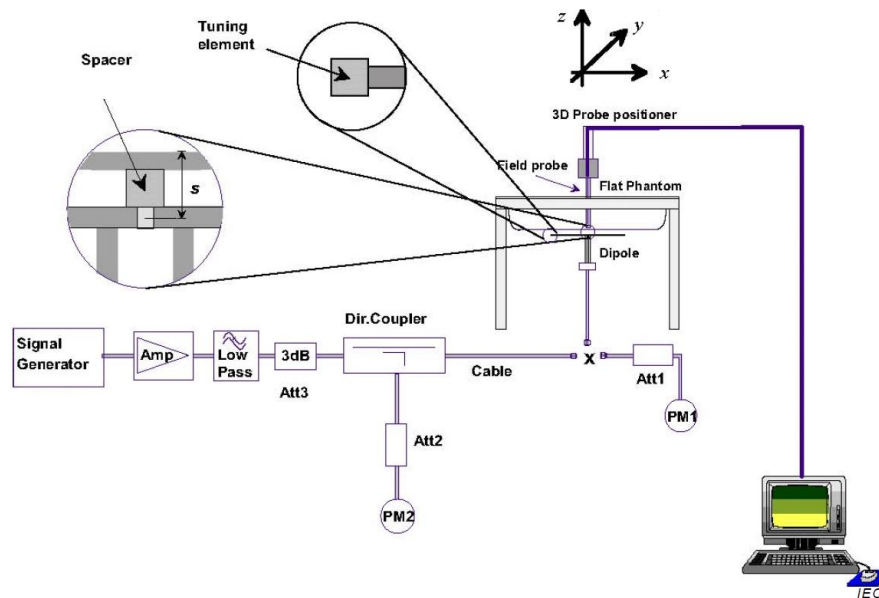


Picture 7-7 Liquid depth in the Head Phantom (5GHz)

## 8 System verification

### 8.1 System Setup

In the simplified setup for system evaluation, the DUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave that comes from a signal generator. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The equipment setup is shown below:



Picture 8.1 System Setup for System Evaluation



Picture 8.2 Photo of Dipole Setup

## 8.2 System Verification

SAR system verification is required to confirm measurement accuracy, according to the tissue dielectric media, probe calibration points and other system operating parameters required for measuring the SAR of a test device. The system verification must be performed for each frequency band and within the valid range of each probe calibration point required for testing the device.

The system verification results are required that the area scan estimated 1-g SAR is within 3% of the zoom scan 1-g SAR. The details are presented in annex B.

**Table 8.1: System Verification of Head**

Measurement Date (yyyy-mm-dd)	Frequency	Target value (W/kg)		Measured value(W/kg)		Deviation	
		10 g Average	1 g Average	10 g Average	1 g Average	10 g Average	1 g Average
2020/11/13	750 MHz	5.53	8.47	5.6	8.48	1.27%	0.12%
2020/11/14	835 MHz	6.25	9.60	6.32	9.44	1.12%	-1.67%
2020/11/15	835 MHz	6.25	9.60	6.36	9.64	1.76%	0.42%
2020/11/16	835 MHz	6.25	9.60	6.36	9.6	1.76%	0.00%
2020/11/17	1750 MHz	19.1	36.5	19.04	35.8	-0.31%	-1.92%
2020/11/18	1900 MHz	20.6	39.6	20.36	39.6	-1.17%	0.00%
2020/11/19	1900 MHz	20.6	39.6	20.68	39.12	0.39%	-1.21%
2020/11/20	1900 MHz	20.6	39.6	20.84	38.92	1.17%	-1.72%
2020/11/21	2450 MHz	24.5	52.5	24.52	53.08	0.08%	1.10%
2020/11/22	2600 MHz	25.3	57.0	25.44	56.12	0.55%	-1.54%
2020/11/24	2600 MHz	25.3	57.0	25.2	55.88	-0.40%	-1.96%
2020/11/25	5250 MHz	22.9	80.5	22.7	81.7	-0.96%	1.47%
2020/11/26	5600 MHz	23.6	83.3	24.0	84.8	1.69%	1.85%
2020/11/27	5750 MHz	22.7	80.4	22.8	81.7	0.62%	1.59%

## 9 Measurement Procedures

### 9.1 Tests to be performed

In order to determine the highest value of the peak spatial-average SAR of a handset, all device positions, configurations and operational modes shall be tested for each frequency band according to steps 1 to 3 below. A flowchart of the test process is shown in picture 9.1.

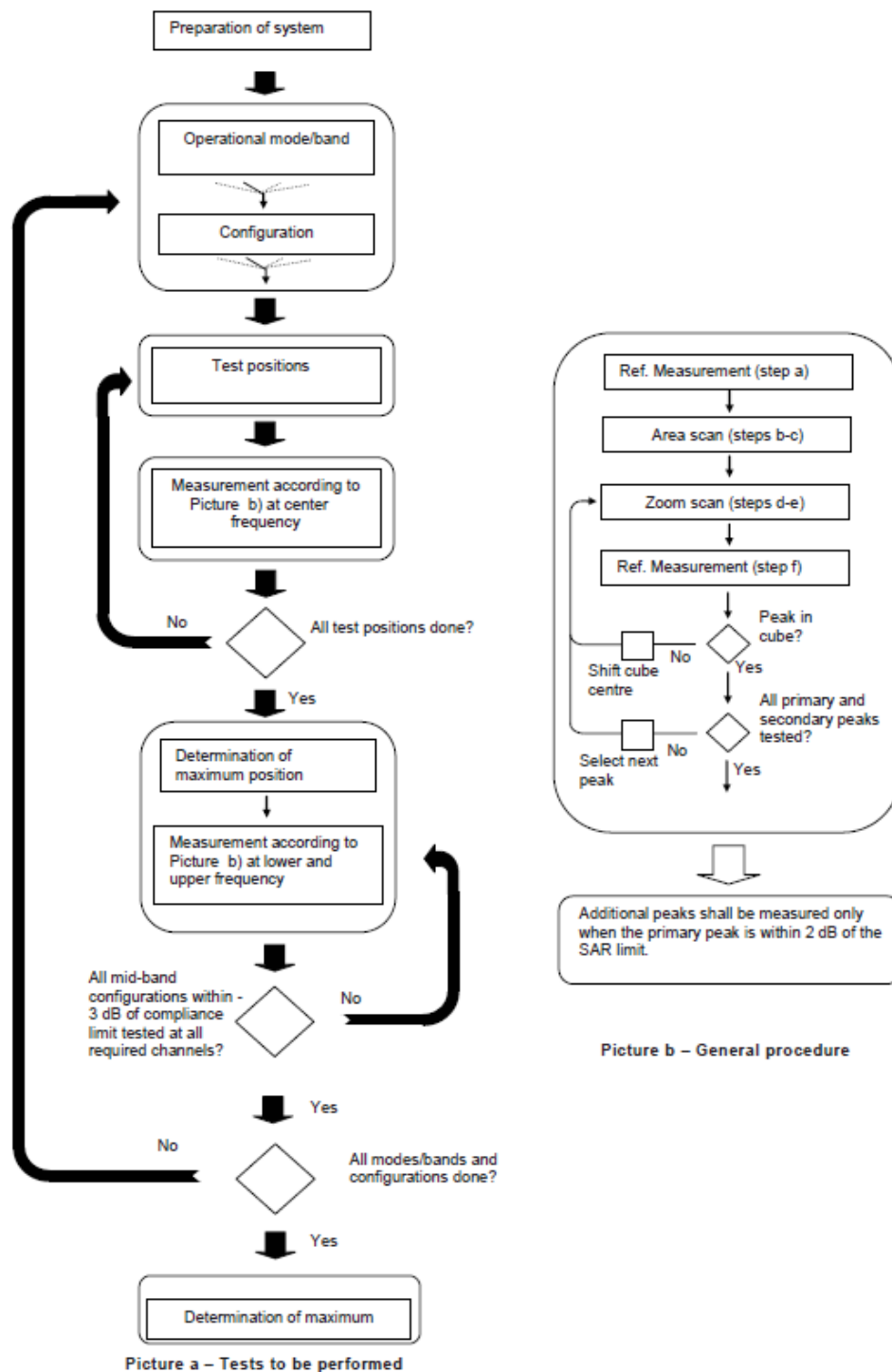
**Step 1:** The tests described in 9.2 shall be performed at the channel that is closest to the centre of the transmit frequency band ( $f_c$ ) for:

- a) all device positions (cheek and tilt, for both left and right sides of the SAM phantom, as described in annex D),
- b) all configurations for each device position in a), e.g., antenna extended and retracted, and
- c) all operational modes, e.g., analogue and digital, for each device position in a) and configuration in b) in each frequency band.

If more than three frequencies need to be tested according to 11.1 (i.e.,  $N_c > 3$ ), then all frequencies, configurations and modes shall be tested for all of the above test conditions.

**Step 2:** For the condition providing highest peak spatial-average SAR determined in Step 1, perform all tests described in 9.2 at all other test frequencies, i.e., lowest and highest frequencies. In addition, for all other conditions (device position, configuration and operational mode) where the peak spatial-average SAR value determined in Step 1 is within 3 dB of the applicable SAR limit, it is recommended that all other test frequencies shall be tested as well.

**Step 3:** Examine all data to determine the highest value of the peak spatial-average SAR found in Steps 1 to 2.



Picture 9.1 Block diagram of the tests to be performed

## 9.2 General Measurement Procedure

The area and zoom scan resolutions specified in the table below must be applied to the SAR measurements and fully documented in SAR reports to qualify for TCB approval. Probe boundary effect error compensation is required for measurements with the probe tip closer than half a probe tip diameter to the phantom surface. Both the probe tip diameter and sensor offset distance must satisfy measurement protocols; to ensure probe boundary effect errors are minimized and the

higher fields closest to the phantom surface can be correctly measured and extrapolated to the phantom surface for computing 1-g SAR. Tolerances of the post-processing algorithms must be verified by the test laboratory for the scan resolutions used in the SAR measurements, according to the reference distribution functions specified in IEEE Std 1528-2003. The results should be documented as part of the system validation records and may be requested to support test results when all the measurement parameters in the following table are not satisfied.

		$\leq 3$ GHz	$> 3$ GHz	
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface		$5 \pm 1$ mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm	
Maximum probe angle from probe axis to phantom surface normal at the measurement location		$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$	
Maximum area scan spatial resolution: $\Delta x_{Area}$ , $\Delta y_{Area}$		$\leq 2$ GHz: $\leq 15$ mm 2 – 3 GHz: $\leq 12$ mm	3 – 4 GHz: $\leq 12$ mm 4 – 6 GHz: $\leq 10$ mm	
		When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device.		
Maximum zoom scan spatial resolution: $\Delta x_{Zoom}$ , $\Delta y_{Zoom}$		$\leq 2$ GHz: $\leq 8$ mm 2 – 3 GHz: $\leq 5$ mm*	3 – 4 GHz: $\leq 5$ mm* 4 – 6 GHz: $\leq 4$ mm*	
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$	$\leq 5$ mm	3 – 4 GHz: $\leq 4$ mm 4 – 5 GHz: $\leq 3$ mm 5 – 6 GHz: $\leq 2$ mm	
	graded grid	$\Delta z_{Zoom}(1)$ : between 1 <sup>st</sup> two points closest to phantom surface	$\leq 4$ mm	3 – 4 GHz: $\leq 3$ mm 4 – 5 GHz: $\leq 2.5$ mm 5 – 6 GHz: $\leq 2$ mm
		$\Delta z_{Zoom}(n>1)$ : between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z	$\geq 30$ mm	3 – 4 GHz: $\geq 28$ mm 4 – 5 GHz: $\geq 25$ mm 5 – 6 GHz: $\geq 22$ mm	
Note: $\delta$ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details. * When zoom scan is required and the <i>reported</i> SAR from the area scan based 1-g SAR estimation procedures of KDB 447498 is $\leq 1.4$ W/kg, $\leq 8$ mm, $\leq 7$ mm and $\leq 5$ mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

### 9.3 WCDMA Measurement Procedures for SAR

The following procedures are applicable to WCDMA handsets operating under 3GPP Release99, Release 5 and Release 6. The default test configuration is to measure SAR with an established radio link between the DUT and a communication test set using a 12.2kbps RMC (reference measurement channel) configured in Test Loop Mode 1. SAR is selectively confirmed for other physical channel configurations (DPCCH & DPDCH<sub>n</sub>), HSDPA and HSPA (HSUPA/HSDPA) modes according to output power, exposure conditions and device operating capabilities. Both uplink and downlink should be configured with the same RMC or AMR, when required. SAR for Release 5 HSDPA and Release 6 HSPA are measured using the applicable FRC (fixed reference channel) and E-DCH reference channel configurations. Maximum output power is verified according to applicable versions of 3GPP TS 34.121 and SAR must be measured according to these maximum output conditions. When Maximum Power Reduction (MPR) is not implemented according to Cubic Metric (CM) requirements for Release 6 HSPA, the following procedures do not apply.

#### For Release 5 HSDPA Data Devices:

Sub-test	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c / \beta_d$	$\beta_{hs}$	CM/dB
1	2/15	15/15	64	2/15	4/15	0.0
2	12/15	15/15	64	12/15	24/25	1.0
3	15/15	8/15	64	15/8	30/15	1.5
4	15/15	4/15	64	15/4	30/15	1.5

#### For Release 6 HSPA Data Devices

Sub-test	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c / \beta_d$	$\beta_{hs}$	$\beta_{ec}$	$\beta_{ed}$	$\beta_{ed}$ (SF)	$\beta_{ed}$ (codes)	CM (dB)	MPR (dB)	AG Index	E-TFCI
1	11/15	15/15	64	11/15	22/15	209/225	1039/225	4	1	1.5	1.5	20	75
2	6/15	15/15	64	6/15	12/15	12/15	12/15	4	1	1.5	1.5	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed1}:47/15$ $\beta_{ed2}:47/15$	4	2	1.5	1.5	15	92
4	2/15	15/15	64	2/15	4/15	4/15	56/75	4	1	1.5	1.5	17	71
5	15/15	15/15	64	15/15	24/15	30/15	134/15	4	1	1.5	1.5	21	81

#### Rel.8 DC-HSDPA (Cat 24)

SAR test exclusion for Rel.8 DC-HSDPA must satisfy the SAR test exclusion requirements of Rel.5 HSDPA. SAR test exclusion for DC-HSDPA devices is determined by power measurements according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to qualify for SAR test exclusion.



## 9.4 SAR Measurement for LTE

SAR tests for LTE are performed with a base station simulator, Rohde & Schwarz CMW500. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. All powers were measured with the CMW 500.

It is performed for conducted power and SAR based on the KDB941225 D05.

SAR is evaluated separately according to the following procedures for the different test positions in each exposure condition – head, body, body-worn accessories and other use conditions. The procedures in the following subsections are applied separately to test each LTE frequency band.

### 1) QPSK with 1 RB allocation

Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is  $\leq 0.8$  W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is  $> 1.45$  W/kg, SAR is required for all three RB offset configurations for that required test channel.

### 2) QPSK with 50% RB allocation

The procedures required for 1 RB allocation in 1) are applied to measure the SAR for QPSK with 50% RB allocation.

### 3) QPSK with 100% RB allocation

For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in 1) and 2) are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.

## TDD test:

TDD testing is performed using guidance from FCC KDB 941225 D05 v02r05 and the SAR test guidance provided in April 2013 TCB works hop notes. TDD is tested at the highest duty factor using UL-DL configuration 0 with special subframe configuration 6 and applying the FDD LTE procedures in KDB 941225 D05 v02r05. SAR testing is performed using the extended cyclic prefix listed in 3GPP TS 36.211.

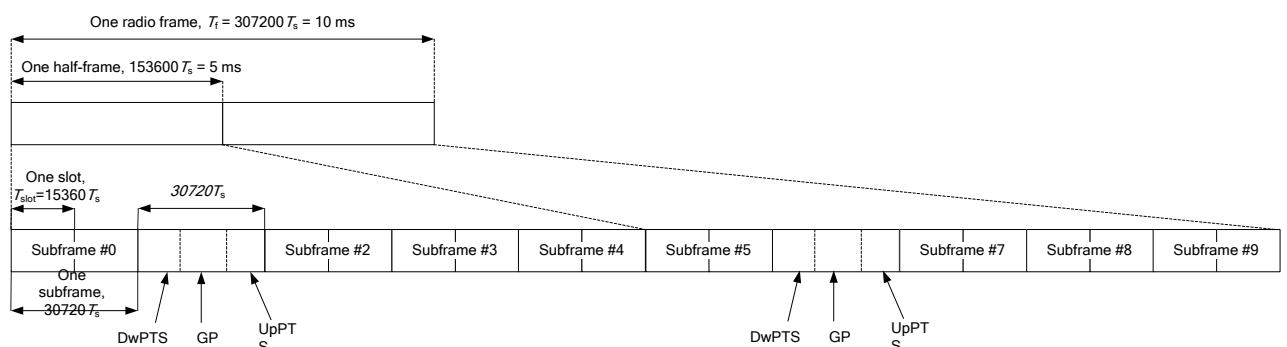


Figure 9.2: Frame structure type 2 (for 5 ms switch-point periodicity)



**Table 9.1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)**

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$			$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$			-	-	-
9	$13168 \cdot T_s$			-	-	-

**Table 9.2: Uplink-downlink configurations**

Uplink-downlink configuration	Downlink-to-Uplink Switch-point periodicity	Subframe number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

Duty factor is calculated by:

$$\begin{aligned}
 \text{Duty factor} &= \text{uplink frame} \cdot 6 + \text{UpPTS} \cdot 2 / \text{one frame length} \\
 &= (30720 \cdot T_s \cdot 6 + 5120 \cdot T_s \cdot 2) / 307200 \cdot T_s \\
 &= 0.633
 \end{aligned}$$

According to the KDB 447498 D01, SAR should be evaluated at more than 3 frequencies for devices supporting transmit bands wider than 100MHz. Oct.2014 FCC-TCB conference notes (Dec. 2014 rev.) specifies the 5 test channels to use for 3GPP band 41 SAR evaluation.

## 9.5 Bluetooth & Wi-Fi Measurement Procedures for SAR

Normal network operating configurations are not suitable for measuring the SAR of 802.11 transmitters in general. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure that the results are consistent and reliable.

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in a test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters. The test frequencies should correspond to actual channel frequencies defined for domestic use. SAR for devices with switched diversity should be measured with only one antenna transmitting at a time during each SAR measurement, according to a fixed modulation and data rate. The same data pattern should be used for all measurements.

## 9.6 Power Drift

To control the output power stability during the SAR test, DASY4 system calculates the power drift by measuring the E-field at the same location at the beginning and at the end of the measurement for each test position. These drift values can be found in section 14 labeled as: (Power Drift [dB]). This ensures that the power drift during one measurement is within 5%.

## 10 Area Scan Based 1-g SAR

### 10.1 Requirement of KDB

According to the KDB447498 D01 v06, when the implementation is based the specific polynomial fit algorithm as presented at the 29th Bioelectromagnetics Society meeting (2007) and the estimated 1-gSAR is  $\leq 1.2$  W/kg, a zoom scan measurement is not required provided it is also not needed for any other purpose; for example, if the peak SAR location required for simultaneous transmission SAR test exclusion can be determined accurately by the SAR system or manually to discriminate between distinctive peaks and scattered noisy SAR distributions from area scans.

There must not be any warning or alert messages due to various measurement concerns identified by the SAR system; for example, noise in measurements, peaks too close to scan boundary, peaks are too sharp, spatial resolution and uncertainty issues etc. The SAR system verification must also demonstrate that the area scan estimated 1-g SAR is within 3% of the zoom scan 1-g SAR (See Annex B). When all the SAR results for each exposure condition in a frequency band and wireless mode are based on estimated 1-g SAR, the 1-g SAR for the highest SAR configuration must be determined by a zoom scan.

### 10.2 Fast SAR Algorithms

The approach is based on the area scan measurement applying a frequency dependent attenuation parameter. This attenuation parameter was empirically determined by analyzing a large number of phones. The MOTOROLA FAST SAR was developed and validated by the MOTOROLA Research Group in Ft. Lauderdale.

In the initial study, an approximation algorithm based on Linear fit was developed. The accuracy of the algorithm has been demonstrated across a broad frequency range (136-2450 MHz) and for both 1- and 10-g averaged SAR using a sample of 264 SAR measurements from 55 wireless handsets. For the sample size studied, the root-mean-squared errors of the algorithm are 1.2% and 5.8% for 1- and 10-g averaged SAR, respectively. The paper describing the algorithm in detail is expected to be published in August 2004 within the Special Issue of Transactions on MTT.

In the second step, the same research group optimized the fitting algorithm to an Polynomial fit whereby the frequency validity was extended to cover the range 30-6000MHz. Details of this study can be found in the BEMS 2007 Proceedings.

Both algorithms are implemented in DASY software.

## 11 Conducted Output Power

**Table1: Summary of Receiver detection mechanism**

Antenna	Receiver on (head scenario)	Receiver off + Hotspot on (Body/other scenario)	Receiver off (Body/other scenario)
Main/ Diversity antenna	Power Level A1	Power Level B1	Power Level C1

### 11.1 GSM Measurement result

During the process of testing, the EUT was controlled via Agilent Digital Radio Communication tester (E5515C) to ensure the maximum power transmission and proper modulation. This result contains conducted output power for the EUT. In all cases, the measured peak output power should be greater and within 5% than EMI measurement.

**Table 11.1-1: The conducted power measurement results for GSM, GPRS and EGPRS- Level A1/B1/C1**

GSM 850 Speech (GMSK)	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	32.18	32.17	32.13	33.50	/	/	/	/
GSM 850 GPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	32.08	32.10	32.08	33.50	-9.03	23.05	23.07	23.05
2 Txslots	31.44	31.47	31.47	32.50	-6.02	25.42	25.45	25.45
3Txslots	29.75	29.82	29.83	30.50	-4.26	25.49	25.56	25.57
<b>4 Txslots</b>	<b>28.68</b>	<b>28.71</b>	<b>28.73</b>	<b>29.50</b>	<b>-3.01</b>	<b>25.67</b>	<b>25.70</b>	<b>25.72</b>
GSM 850 EGPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	32.03	32.03	32.02	33.50	-9.03	23.00	23.00	22.99
2 Txslots	31.40	31.41	31.41	32.50	-6.02	25.38	25.39	25.39
3Txslots	29.71	29.77	29.78	30.50	-4.26	25.45	25.51	25.52
4 Txslots	28.62	28.66	28.69	<b>29.50</b>	<b>-3.01</b>	25.61	25.65	25.68
GSM 850 EGPRS (8PSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	26.53	26.55	26.52	27.50	-9.03	17.50	17.52	17.49
2 Txslots	25.30	25.29	25.23	26.50	-6.02	19.28	19.27	19.21
3Txslots	23.22	23.09	23.30	24.50	-4.26	18.96	18.83	19.04
4 Txslots	21.86	21.72	21.85	23.50	-3.01	18.85	18.71	18.84

NOTES:

1) Division Factors

To average the power, the division factor is as follows:

1TX-slot = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB

2TX-slots = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB

3TX-slots = 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB

4TX-slots = 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.01dB

**According to the conducted power as above, the body measurements are performed with 4Txslots for GSM850**

**Table 11.1-2: The conducted power measurement results for GSM, GPRS and EGPRS Level A1/C1**

PCS1900 Speech (GMSK)	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	29.52	29.57	29.49	30.50	/	/	/	/
PCS1900 GPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	29.53	29.56	29.50	30.50	-9.03	20.50	20.53	20.47
2 Txslots	28.87	28.87	28.78	29.00	-6.02	22.85	22.85	22.76
3Txslots	27.14	27.14	27.03	28.00	-4.26	22.88	22.88	22.77
<b>4 Txslots</b>	<b>26.06</b>	<b>26.04</b>	<b>25.94</b>	<b>27.00</b>	<b>-3.01</b>	<b>23.05</b>	<b>23.03</b>	<b>22.93</b>
PCS1900 EGPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	29.50	29.55	29.47	30.50	-9.03	20.47	20.52	20.44
2 Txslots	28.84	28.85	28.75	29.00	-6.02	22.82	22.83	22.73
3Txslots	27.12	27.12	27.00	28.00	-4.26	22.86	22.86	22.74
4 Txslots	26.04	26.04	25.91	27.00	-3.01	23.03	23.03	22.90
PCS1900 EGPRS (8PSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	25.94	25.93	25.92	27.00	-9.03	16.91	16.90	16.89
2 Txslots	24.77	24.84	24.82	26.00	-6.02	18.75	18.82	18.80
3Txslots	22.58	22.59	22.64	24.00	-4.26	18.32	18.33	18.38
4 Txslots	21.62	21.44	21.49	23.00	-3.01	18.61	18.43	18.48

NOTES:

1) Division Factors

To average the power, the division factor is as follows:

1TX-slot = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB

2TX-slots = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB

3TX-slots = 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB

4TX-slots = 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.01dB

**According to the conducted power as above, the body measurements are performed with 4Txslots for GSM1900.**

**Table 11.1-3: The conducted power measurement results for GSM, GPRS and EGPRS Level B1**

PCS1900 GPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	27.72	27.70	27.59	28.00	-9.03	18.69	18.67	18.56
2 Txslots	24.69	24.68	24.56	25.00	-6.02	18.67	18.66	18.54
3Txslots	22.97	22.97	22.84	24.00	-4.26	18.71	18.71	18.58
<b>4 Txslots</b>	<b>21.73</b>	<b>21.74</b>	<b>21.60</b>	<b>23.00</b>	<b>-3.01</b>	<b>18.72</b>	<b>18.73</b>	<b>18.59</b>
PCS1900 EGPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	27.68	27.70	27.59	28.00	-9.03	18.65	18.67	18.56
2 Txslots	24.68	24.69	24.56	25.00	-6.02	18.66	18.67	18.54
3Txslots	22.96	22.97	22.83	24.00	-4.26	18.70	18.71	18.57
4 Txslots	21.72	21.74	21.60	23.00	-3.01	18.71	18.73	18.59

NOTES:

1) Division Factors

To average the power, the division factor is as follows:

1TX-slot = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB

2TX-slots = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB

3TX-slots = 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB

4TX-slots = 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.01dB

**According to the conducted power as above, the body measurements are performed with 4Txslots for GSM1900.**

## 11.2 WCDMA Measurement result

**Table 11.2-1: The conducted Power for WCDMA Level A1 /B1/C1**

Item	band	FDDV result			
	ARFCN	4132 (826.4MHz)	4182 (836.4MHz)	4233 (846.6MHz)	Tune up
WCDMA	\	22.88	22.91	22.90	24.00
HSUPA	1	20.37	20.35	20.38	21.00
	2	19.96	19.95	19.98	21.00
	3	20.97	20.96	21.02	22.00
	4	19.55	19.58	19.51	21.00
	5	20.96	20.95	20.99	22.00
DC-HSDPA	1	21.96	21.94	22.01	22.50
	2	21.91	21.87	21.95	22.50
	3	21.42	21.40	21.43	22.50
	4	21.4	21.38	21.41	22.50

**Table 11.2-2: The conducted Power for WCDMA Level A1 /C1**

Item	band	FDDII result			
	ARFCN	9262 (1852.4MHz)	9400 (1880MHz)	9538 (1907.6MHz)	
WCDMA	\	22.51	22.55	22.49	23.50
HSUPA	1	19.93	19.92	19.91	21.00
	2	19.58	19.56	19.55	21.00
	3	20.57	20.59	20.56	22.00
	4	19.09	19.09	19.05	21.00
	5	20.56	20.58	20.54	22.00
DC-HSDPA	1	21.61	21.62	21.58	22.50
	2	21.55	21.57	21.54	22.50
	3	21.02	21.03	21.01	22.50
	4	21.01	21.05	20.99	22.50

**Table 11.2-3: The conducted Power for WCDMA Level B1**

Item	band	FDDII result			
	ARFCN	9262 (1852.4MHz)	9400 (1880MHz)	9538 (1907.6MHz)	
WCDMA	\	19.43	19.51	19.54	21.00
HSUPA	1	17.45	17.86	17.85	19.00
	2	16.96	16.97	16.92	18.00
	3	18.42	18.46	18.40	20.00
	4	16.98	16.99	16.97	18.00
	5	18.39	18.42	18.41	20.00
DC-HSDPA	1	18.55	18.60	18.56	20.00
	2	18.52	18.57	18.55	20.00
	3	18.01	18.06	18.04	19.00
	4	17.99	18.04	18.02	19.00

### 11.3 LTE Measurement result

**Table 11.3-1: The tune up for LTE– Power Level A1/C1**

Band	Tune up
LTE Band 2	23.5
LTE Band 66	23.5

**Table 11.3-2: The tune up for LTE– Power Level B1**

Band	Tune up
LTE Band 2	21.5
LTE Band 66	20

**Table 11.3-3: Maximum Power Reduction (MPR) for LTE- Power Level A1/C1**

Modulation	Channel bandwidth / Transmission bandwidth configuration [RB]						MPR (dB)
	1.4	3	5	10	15	20	
	MHz	MHz	MHz	MHz	MHz	MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	2

**Table 11.3-4: Maximum Power Reduction (MPR) for LTE- Power Level B1**

Modulation	Channel bandwidth / Transmission bandwidth configuration [RB]						MPR (dB)
	1.4	3	5	10	15	20	
	MHz	MHz	MHz	MHz	MHz	MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	0
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	0
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	0

**Table 11.3-5: The tune up for LTE– Power Level A1**

Band	Tune up
LTE Band 7	20.5

**Table 11.3-6: The tune up for LTE– Power Level B1/C1**

Band	Tune up
LTE Band 7	23.5

**Table 11.3-7: Maximum Power Reduction (MPR) for LTE- Power Level A1**

Modulation	Channel bandwidth / Transmission bandwidth configuration [RB]						MPR (dB)
	1.4	3	5	10	15	20	
	MHz	MHz	MHz	MHz	MHz	MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	0
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	0
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	0



**Table 11.3-8: Maximum Power Reduction (MPR) for LTE- Power Level B1/C1**

Modulation	Channel bandwidth / Transmission bandwidth configuration [RB]						MPR (dB)
	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	2

**Table 11.3-9: The tune up for LTE- Power Level A1/B1/C1**

Band	Tune up
LTE Band 5	23.5
LTE Band 12	23.5
LTE Band 41	23.5
LTE Band 66	23.5

**Table 11.3-10: Maximum Power Reduction (MPR) for LTE- Power Level A1/B1/C1**

Modulation	Channel bandwidth / Transmission bandwidth configuration [RB]						MPR (dB)
	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	2

## Power Level A1/C1

**Table 11.3-1: The conducted Power for LTE**

Band 2					
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM	
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)	
1.4 MHz	1RB High (5)	1909.3	22.80	21.98	
		1880	22.90	22.00	
		1850.7	22.81	22.30	
	1RB Middle (3)	1909.3	23.01	22.11	
		1880	23.03	22.10	
		1850.7	23.00	22.45	
	1RB Low (0)	1909.3	22.83	21.92	
		1880	22.96	21.99	
		1850.7	22.87	22.31	
	3RB High (3)	1909.3	23.02	22.19	
		1880	23.01	21.99	
		1850.7	22.97	22.22	
	3RB Middle (1)	1909.3	23.06	22.28	
		1880	23.06	22.06	
		1850.7	23.04	22.21	
	3RB Low (0)	1909.3	22.95	22.18	
		1880	23.01	21.98	
		1850.7	23.00	22.20	
	6RB (0)	1909.3	21.93	21.15	
		1880	21.97	21.10	
		1850.7	21.87	20.82	
	3 MHz	1RB High (14)	1908.5	22.82	21.89
			1880	22.95	21.84
			1851.5	22.89	22.28
		1RB Middle (7)	1908.5	23.00	22.12
			1880	23.04	21.97
			1851.5	23.00	22.41
1RB Low (0)		1908.5	22.86	21.97	
		1880	22.89	21.85	
		1851.5	22.88	22.27	
8RB High (7)		1908.5	21.89	20.95	
		1880	21.89	20.97	
		1851.5	21.80	20.97	
8RB Middle (4)		1908.5	21.90	21.01	
		1880	21.99	21.06	
		1851.5	21.88	21.05	
8RB Low (0)		1908.5	21.92	21.00	
		1880	21.92	21.01	
		1851.5	21.82	20.96	
15RB (0)		1908.5	21.88	20.94	
		1880	21.90	20.95	
		1851.5	21.82	20.93	

5 MHz	1RB High (24)	1907.5	22.80	21.94	
		1880	22.88	21.99	
		1852.5	22.73	22.30	
	1RB Middle (12)	1907.5	23.11	22.23	
		1880	23.16	22.26	
		1852.5	23.01	22.32	
	1RB Low (0)	1907.5	22.78	21.90	
		1880	22.85	21.94	
		1852.5	22.73	22.29	
	12RB High (13)	1907.5	21.86	20.92	
		1880	21.90	20.92	
		1852.5	21.90	21.02	
	12RB Middle (6)	1907.5	21.97	21.05	
		1880	21.98	21.03	
		1852.5	21.88	21.06	
	12RB Low (0)	1907.5	21.90	20.98	
		1880	21.90	20.97	
		1852.5	21.87	21.00	
	25RB (0)	1907.5	21.91	20.91	
		1880	21.90	20.89	
		1852.5	21.85	20.94	
	10 MHz	1RB High (49)	1905	22.78	21.88
			1880	22.88	21.84
			1855	22.87	22.22
1RB Middle (24)		1905	22.88	22.00	
		1880	23.00	21.93	
		1855	23.08	22.39	
1RB Low (0)		1905	22.80	21.87	
		1880	22.82	21.76	
		1855	22.79	22.18	
25RB High (25)		1905	21.81	20.96	
		1880	21.92	20.94	
		1855	21.98	21.04	
25RB Middle (12)		1905	21.93	21.01	
		1880	21.95	20.98	
		1855	21.94	21.00	
25RB Low (0)		1905	22.00	21.05	
		1880	21.96	20.94	
		1855	21.86	20.90	
50RB (0)		1905	21.93	20.96	
		1880	21.91	20.90	
		1855	21.93	20.99	
15 MHz		1RB High (74)	1902.5	22.74	21.72
			1880	22.84	22.18
			1857.5	22.77	22.23
	1RB Middle (37)	1902.5	22.89	21.86	
		1880	22.98	22.30	
		1857.5	22.90	22.41	

	1RB Low (0)	1902.5	22.81	21.79
		1880	22.86	22.15
		1857.5	22.80	22.26
	36RB High (38)	1902.5	21.86	20.85
		1880	21.93	20.97
		1857.5	21.86	20.88
	36RB Middle (19)	1902.5	21.93	20.91
		1880	21.94	20.96
		1857.5	21.84	20.83
	36RB Low (0)	1902.5	21.93	20.90
		1880	22.00	20.95
		1857.5	21.76	20.78
	75RB (0)	1902.5	21.89	20.90
		1880	21.94	20.94
		1857.5	21.83	20.84
20 MHz	1RB High (99)	1900	22.64	22.17
		1880	22.66	22.17
		1860	22.62	22.05
	1RB Middle (50)	1900	22.99	22.49
		1880	22.94	22.41
		1860	22.88	22.40
	1RB Low (0)	1900	22.67	22.25
		1880	22.69	22.11
		1860	22.58	22.05
	50RB High (50)	1900	21.63	20.64
		1880	21.79	20.79
		1860	21.78	20.74
	50RB Middle (25)	1900	21.86	20.87
		1880	21.85	20.87
		1860	21.79	20.80
	50RB Low (0)	1900	21.81	20.87
		1880	21.83	20.82
		1860	21.72	20.74
	100RB (0)	1900	21.71	20.75
		1880	21.84	20.81
		1860	21.70	20.76

Band 66					
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM	
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)	
1.4 MHz	1RB High (5)	1779.3	22.59	21.51	
		1745	22.37	21.73	
		1710.7	22.41	21.39	
	1RB Middle (3)	1779.3	22.76	21.71	
		1745	22.61	21.89	
		1710.7	22.62	21.55	
	1RB Low (0)	1779.3	22.62	21.52	
		1745	22.41	21.73	
		1710.7	22.38	21.41	
	3RB High (3)	1779.3	22.53	21.52	
		1745	22.48	21.65	
		1710.7	22.55	21.70	
	3RB Middle (1)	1779.3	22.59	21.52	
		1745	22.53	21.74	
		1710.7	22.58	21.73	
	3RB Low (0)	1779.3	22.59	21.50	
		1745	22.50	21.71	
		1710.7	22.51	21.66	
	6RB (0)	1779.3	21.65	20.74	
		1745	21.37	20.37	
		1710.7	21.51	20.67	
	3 MHz	1RB High (14)	1778.5	22.59	21.35
			1745	22.45	21.75
			1711.5	22.41	21.35
		1RB Middle (7)	1778.5	22.70	21.51
			1745	22.60	21.91
			1711.5	22.63	21.62
1RB Low (0)		1778.5	22.51	21.36	
		1745	22.47	21.82	
		1711.5	22.51	21.48	
8RB High (7)		1778.5	21.59	20.67	
		1745	21.39	20.55	
		1711.5	21.47	20.52	
8RB Middle (4)		1778.5	21.64	20.68	
		1745	21.41	20.61	
		1711.5	21.59	20.60	
8RB Low (0)		1778.5	21.58	20.66	
		1745	21.41	20.59	
		1711.5	21.49	20.54	
15RB (0)		1778.5	21.52	20.56	
		1745	21.36	20.50	

		1711.5	21.43	20.46
5 MHz	1RB High (24)	1777.5	22.55	21.55
		1745	22.30	21.83
		1712.5	22.37	21.39
		1777.5	22.78	21.78
	1RB Middle (12)	1745	22.55	22.08
		1712.5	22.68	21.70
		1777.5	22.48	21.49
	1RB Low (0)	1745	22.33	21.86
		1712.5	22.44	21.43
		1777.5	21.48	20.55
	12RB High (13)	1745	21.42	20.62
		1712.5	21.49	20.55
		1777.5	21.55	20.57
	12RB Middle (6)	1745	21.47	20.68
		1712.5	21.50	20.56
		1777.5	21.49	20.53
	12RB Low (0)	1745	21.38	20.59
		1712.5	21.37	20.46
		1777.5	21.50	20.50
	25RB (0)	1745	21.40	20.56
		1712.5	21.42	20.46
1775		22.50	21.31	
10 MHz	1RB High (49)	1745	22.38	21.68
		1715	22.27	21.31
		1775	22.60	21.41
	1RB Middle (24)	1745	22.54	21.85
		1715	22.52	21.47
		1775	22.46	21.28
	1RB Low (0)	1745	22.39	21.70
		1715	22.39	21.37
		1775	21.51	20.53
	25RB High (25)	1745	21.53	20.61
		1715	21.46	20.61
		1775	21.50	20.51
	25RB Middle (12)	1745	21.47	20.58
		1715	21.47	20.62
		1775	21.51	20.55
	25RB Low (0)	1745	21.38	20.52
		1715	21.36	20.51
		1775	21.49	20.51
	50RB (0)	1745	21.47	20.59
		1715	21.44	20.54
		1772.5	22.50	21.73
15 MHz	1RB High (74)	1745	22.34	21.65
		1717.5	22.30	21.21
		1772.5	22.57	21.78
	1RB Middle (37)	1745	22.43	21.86

	1RB Low (0)	1717.5	22.46	21.38	
		1772.5	22.44	21.65	
		1745	22.35	21.77	
	36RB High (38)	1717.5	22.39	21.25	
		1772.5	21.59	20.62	
		1745	21.46	20.48	
	36RB Middle (19)	1717.5	21.48	20.46	
		1772.5	21.61	20.60	
		1745	21.46	20.46	
	36RB Low (0)	1717.5	21.50	20.49	
		1772.5	21.65	20.64	
		1745	21.42	20.44	
	75RB (0)	1717.5	21.47	20.41	
		1772.5	21.57	20.60	
		1745	21.46	20.49	
<b>20 MHz</b>	1RB High (99)	1717.5	21.45	20.49	
		1770	22.28	21.67	
		1745	22.12	21.55	
	1RB Middle (50)	1720	22.11	21.51	
		1770	22.50	21.90	
		1745	22.40	21.89	
	1RB Low (0)	1720	22.43	21.69	
		1770	22.16	21.58	
		1745	22.05	21.58	
	50RB High (50)	1720	22.16	21.51	
		1770	21.22	20.23	
		1745	21.32	20.47	
	50RB Middle (25)	1720	21.19	20.24	
		1770	21.31	20.39	
		1745	21.32	20.44	
	50RB Low (0)	1720	21.24	20.32	
		1770	21.42	20.47	
		1745	21.22	20.31	
	100RB (0)	1720	21.09	20.18	
		1770	21.34	20.38	
		1745	21.26	20.35	
			1720	21.11	20.18

## Power Level B1

**Table 11.3-1: The conducted Power for LTE**

Band 2					
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM	
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)	
1.4 MHz	1RB High (5)	1909.3	20.81	20.97	
		1880	20.88	21.02	
		1850.7	20.84	21.24	
	1RB Middle (3)	1909.3	21.08	21.01	
		1880	21.12	21.20	
		1850.7	21.06	21.47	
	1RB Low (0)	1909.3	20.82	20.93	
		1880	20.88	20.97	
		1850.7	20.85	21.27	
	3RB High (3)	1909.3	21.07	21.19	
		1880	20.93	20.96	
		1850.7	20.90	21.14	
	3RB Middle (1)	1909.3	21.00	21.26	
		1880	20.99	21.00	
		1850.7	20.92	21.20	
	3RB Low (0)	1909.3	20.93	21.15	
		1880	20.93	20.99	
		1850.7	20.94	21.17	
	6RB (0)	1909.3	20.94	21.14	
		1880	21.04	21.11	
		1850.7	20.87	20.81	
	3 MHz	1RB High (14)	1908.5	20.82	20.90
			1880	20.90	20.83
			1851.5	20.85	21.30
		1RB Middle (7)	1908.5	21.06	21.05
			1880	21.03	21.00
			1851.5	21.01	21.43
1RB Low (0)		1908.5	20.86	20.95	
		1880	20.83	20.85	
		1851.5	20.90	21.27	
8RB High (7)		1908.5	20.88	20.91	
		1880	20.89	20.99	
		1851.5	20.81	20.98	
8RB Middle (4)		1908.5	20.96	21.00	
		1880	20.96	21.06	
		1851.5	20.85	21.05	
8RB Low (0)		1908.5	20.90	20.98	
		1880	20.91	21.03	
		1851.5	20.82	21.00	
15RB (0)		1908.5	20.91	20.88	
		1880	20.92	20.94	
		1851.5	20.85	20.90	



5 MHz	1RB High (24)	1907.5	20.81	20.92
		1880	20.82	21.00
		1852.5	20.76	21.30
	1RB Middle (12)	1907.5	21.10	21.25
		1880	21.14	21.30
		1852.5	21.07	21.11
	1RB Low (0)	1907.5	20.86	20.93
		1880	20.85	20.95
		1852.5	20.72	21.29
	12RB High (13)	1907.5	20.85	20.92
		1880	20.86	20.94
		1852.5	20.86	21.05
	12RB Middle (6)	1907.5	20.96	21.02
		1880	20.96	20.99
		1852.5	20.86	21.06
	12RB Low (0)	1907.5	20.90	20.95
		1880	20.89	20.95
		1852.5	20.83	20.98
25RB (0)	1907.5	20.88	20.90	
	1880	20.86	20.91	
	1852.5	20.86	20.94	
10 MHz	1RB High (49)	1905	20.80	20.90
		1880	20.84	20.82
		1855	20.88	21.23
	1RB Middle (24)	1905	20.92	21.07
		1880	20.97	20.97
		1855	21.00	21.41
	1RB Low (0)	1905	20.82	20.89
		1880	20.79	20.81
		1855	20.82	21.19
	25RB High (25)	1905	20.87	20.95
		1880	20.90	20.93
		1855	20.97	21.04
	25RB Middle (12)	1905	20.92	21.03
		1880	20.95	20.97
		1855	20.97	21.05
	25RB Low (0)	1905	20.93	21.05
		1880	20.94	20.97
		1855	20.87	20.92
50RB (0)	1905	20.94	20.98	
	1880	20.91	20.94	
	1855	20.95	21.02	
15 MHz	1RB High (74)	1902.5	20.83	21.23
		1880	20.77	21.28
		1857.5	20.69	20.73
	1RB Middle (37)	1902.5	20.91	21.27
		1880	20.93	21.39
		1857.5	20.84	20.90

	1RB Low (0)	1902.5	20.82	21.22
		1880	20.83	21.25
		1857.5	20.68	20.71
	36RB High (38)	1902.5	20.84	20.88
		1880	20.94	20.89
		1857.5	20.90	20.89
	36RB Middle (19)	1902.5	20.93	20.97
		1880	20.93	20.91
		1857.5	20.87	20.88
	36RB Low (0)	1902.5	20.91	20.95
		1880	20.95	20.89
		1857.5	20.82	20.81
75RB (0)	1902.5	20.89	20.92	
	1880	20.94	20.92	
	1857.5	20.84	20.86	
20 MHz	1RB High (99)	1900	20.68	21.05
		1880	20.68	20.96
		1860	20.71	21.01
	1RB Middle (50)	1900	21.01	21.21
		1880	21.02	21.23
		1860	21.03	21.28
	1RB Low (0)	1900	20.70	21.05
		1880	20.65	20.86
		1860	20.62	21.02
	50RB High (50)	1900	20.64	20.65
		1880	20.81	20.79
		1860	20.79	20.86
	50RB Middle (25)	1900	20.86	20.87
		1880	20.85	20.86
		1860	20.85	20.90
	50RB Low (0)	1900	20.84	20.88
		1880	20.88	20.88
		1860	20.74	20.88
	100RB (0)	1900	20.74	20.78
		1880	20.87	20.88
		1860	20.77	20.83

Band 66					
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM	
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)	
1.4 MHz	1RB High (5)	1779.3	19.43	19.48	
		1745	19.29	19.75	
		1710.7	19.27	19.47	
	1RB Middle (3)	1779.3	19.58	19.73	
		1745	19.46	19.87	
		1710.7	19.46	19.61	
	1RB Low (0)	1779.3	19.44	19.54	
		1745	19.27	19.75	
		1710.7	19.25	19.46	
	3RB High (3)	1779.3	19.54	19.59	
		1745	19.40	19.73	
		1710.7	19.50	19.71	
	3RB Middle (1)	1779.3	19.54	19.61	
		1745	19.46	19.71	
		1710.7	19.49	19.77	
	3RB Low (0)	1779.3	19.42	19.56	
		1745	19.41	19.70	
		1710.7	19.44	19.67	
	6RB (0)	1779.3	19.53	19.63	
		1745	19.27	19.23	
		1710.7	19.43	19.61	
	3 MHz	1RB High (14)	1778.5	19.36	19.42
			1745	19.25	19.29
			1711.5	19.38	19.84
		1RB Middle (7)	1778.5	19.54	19.62
			1745	19.40	19.41
			1711.5	19.56	19.97
1RB Low (0)		1778.5	19.38	19.48	
		1745	19.20	19.35	
		1711.5	19.38	19.84	
8RB High (7)		1778.5	19.46	19.49	
		1745	19.27	19.46	
		1711.5	19.38	19.50	
8RB Middle (4)		1778.5	19.50	19.55	
		1745	19.35	19.53	
		1711.5	19.45	19.61	
8RB Low (0)		1778.5	19.47	19.48	
		1745	19.30	19.50	
		1711.5	19.42	19.56	
15RB (0)		1778.5	19.41	19.42	
		1745	19.27	19.45	

		1711.5	19.36	19.47
5 MHz	1RB High (24)	1777.5	19.38	19.53
		1745	19.19	19.83
		1712.5	19.31	19.43
		1777.5	19.62	19.74
	1RB Middle (12)	1745	19.41	19.76
		1712.5	19.53	19.68
		1777.5	19.32	19.47
	1RB Low (0)	1745	19.20	19.78
		1712.5	19.35	19.48
		1777.5	19.40	19.52
	12RB High (13)	1745	19.32	19.54
		1712.5	19.42	19.51
		1777.5	19.42	19.54
	12RB Middle (6)	1745	19.36	19.59
		1712.5	19.40	19.50
		1777.5	19.37	19.50
	12RB Low (0)	1745	19.26	19.51
		1712.5	19.30	19.38
		1777.5	19.39	19.45
	25RB (0)	1745	19.30	19.50
		1712.5	19.37	19.39
1775		19.36	19.30	
10 MHz	1RB High (49)	1745	19.27	19.73
		1715	19.19	19.33
		1775	19.43	19.38
	1RB Middle (24)	1745	19.43	19.87
		1715	19.42	19.52
		1775	19.31	19.27
	1RB Low (0)	1745	19.30	19.73
		1715	19.27	19.42
		1775	19.38	19.46
	25RB High (25)	1745	19.36	19.54
		1715	19.42	19.59
		1775	19.40	19.50
	25RB Middle (12)	1745	19.33	19.49
		1715	19.38	19.57
		1775	19.43	19.49
	25RB Low (0)	1745	19.28	19.43
		1715	19.29	19.43
		1775	19.39	19.45
	50RB (0)	1745	19.37	19.52
		1715	19.34	19.51
		1772.5	19.36	19.68
15 MHz	1RB High (74)	1745	19.16	19.79
		1717.5	19.15	19.22
		1772.5	19.42	19.78
	1RB Middle (37)	1745	19.31	19.95

	1RB Low (0)	1717.5	19.31	19.38	
		1772.5	19.33	19.66	
		1745	19.20	19.81	
	36RB High (38)	1717.5	19.29	19.30	
		1772.5	19.47	19.47	
		1745	19.36	19.39	
	36RB Middle (19)	1717.5	19.38	19.34	
		1772.5	19.51	19.48	
		1745	19.35	19.36	
	36RB Low (0)	1717.5	19.40	19.39	
		1772.5	19.53	19.54	
		1745	19.33	19.31	
	75RB (0)	1717.5	19.31	19.34	
		1772.5	19.48	19.46	
		1745	19.33	19.37	
	<b>20 MHz</b>	1RB High (99)	1717.5	19.33	19.38
			1770	19.25	19.49
			1745	19.14	19.35
		1RB Middle (50)	1720	19.22	19.49
			1770	19.50	19.72
			1745	19.42	19.64
		1RB Low (0)	1720	19.45	19.71
			1770	19.12	19.37
			1745	19.10	19.33
50RB High (50)		1720	19.27	19.55	
		1770	19.26	19.01	
		1745	19.38	19.17	
50RB Middle (25)		1720	19.25	19.03	
		1770	19.39	19.12	
		1745	19.35	19.16	
50RB Low (0)		1720	19.31	19.16	
		1770	19.45	19.25	
		1745	19.31	19.07	
100RB (0)		1720	19.15	19.03	
		1770	19.37	19.14	
		1745	19.32	19.17	
			1720	19.16	19.00

## Power Level B1/C1

Band 7					
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM	
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)	
5 MHz	1RB High (24)	2567.5	22.73	22.23	
		2535	22.78	21.84	
		2502.5	22.73	21.86	
	1RB Middle (12)	2567.5	23.01	22.14	
		2535	23.08	22.11	
		2502.5	23.03	22.09	
	1RB Low (0)	2567.5	22.77	22.18	
		2535	22.80	21.85	
		2502.5	22.77	21.93	
	12RB High (13)	2567.5	21.86	21.08	
		2535	21.88	20.94	
		2502.5	21.86	20.92	
	12RB Middle (6)	2567.5	21.89	21.05	
		2535	21.91	20.95	
		2502.5	21.90	20.96	
	12RB Low (0)	2567.5	21.86	20.95	
		2535	21.85	20.91	
		2502.5	21.84	20.92	
	25RB (0)	2567.5	21.85	20.97	
		2535	21.87	20.87	
		2502.5	21.87	20.90	
	10 MHz	1RB High (49)	2565	22.75	21.82
			2535	22.76	21.70
			2505	22.84	21.70
1RB Middle (24)		2565	22.90	21.94	
		2535	22.96	21.90	
		2505	23.01	21.92	
1RB Low (0)		2565	22.67	21.75	
		2535	22.80	21.73	
		2505	22.81	21.72	
25RB High (25)		2565	21.89	21.07	
		2535	21.92	20.95	
		2505	21.97	20.96	
25RB Middle (12)		2565	21.87	21.02	
		2535	21.91	20.96	
		2505	21.95	20.95	
25RB Low (0)		2565	21.82	21.00	
		2535	21.87	20.90	
		2505	21.92	20.93	
50RB (0)		2565	21.91	20.98	
		2535	21.93	20.93	
		2505	21.94	20.95	

15 MHz	1RB High (74)	2562.5	22.67	22.12	
		2535	22.66	22.16	
		2507.5	22.64	21.64	
	1RB Middle (37)	2562.5	22.81	22.16	
		2535	22.84	22.28	
		2507.5	22.77	21.76	
	1RB Low (0)	2562.5	22.71	22.07	
		2535	22.74	22.15	
		2507.5	22.68	21.70	
	36RB High (38)	2562.5	21.91	20.97	
		2535	21.91	20.86	
		2507.5	21.87	20.84	
	36RB Middle (19)	2562.5	21.92	20.91	
		2535	21.96	20.88	
		2507.5	21.92	20.88	
	36RB Low (0)	2562.5	21.91	20.88	
		2535	21.89	20.82	
		2507.5	21.85	20.84	
	75RB (0)	2562.5	21.91	20.93	
		2535	21.91	20.90	
		2507.5	21.91	20.87	
	20 MHz	1RB High (99)	2560	22.55	22.18
			2535	22.58	22.02
			2510	22.65	22.01
		1RB Middle (50)	2560	22.83	22.40
			2535	22.94	22.38
			2510	22.97	22.33
1RB Low (0)		2560	22.52	22.08	
		2535	22.64	22.09	
		2510	22.69	22.02	
50RB High (50)		2560	21.80	20.96	
		2535	21.79	20.82	
		2510	21.78	20.75	
50RB Middle (25)		2560	21.83	20.92	
		2535	21.82	20.87	
		2510	21.84	20.79	
50RB Low (0)		2560	21.78	20.91	
		2535	21.75	20.80	
		2510	21.79	20.74	
100RB (0)		2560	21.80	20.87	
		2535	21.77	20.78	
		2510	21.79	20.77	

## Power Level A1

Band 7					
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM	
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)	
5 MHz	1RB High (24)	2567.5	19.73	19.90	
		2535	19.71	19.97	
		2502.5	19.80	20.28	
	1RB Middle (12)	2567.5	20.07	20.16	
		2535	20.08	20.26	
		2502.5	20.08	20.36	
	1RB Low (0)	2567.5	19.70	19.83	
		2535	19.78	20.00	
		2502.5	19.82	20.31	
	12RB High (13)	2567.5	19.89	19.93	
		2535	19.84	20.00	
		2502.5	19.92	20.03	
	12RB Middle (6)	2567.5	19.92	19.98	
		2535	19.89	20.02	
		2502.5	19.95	20.07	
	12RB Low (0)	2567.5	19.83	19.94	
		2535	19.79	19.96	
		2502.5	19.84	20.00	
	25RB (0)	2567.5	19.86	19.88	
		2535	19.84	19.96	
		2502.5	19.90	19.99	
	10 MHz	1RB High (49)	2565	19.75	19.91
			2535	19.73	19.81
			2505	19.97	20.25
1RB Middle (24)		2565	19.87	20.02	
		2535	19.86	19.94	
		2505	20.03	20.31	
1RB Low (0)		2565	19.75	19.86	
		2535	19.76	19.81	
		2505	19.89	20.23	
25RB High (25)		2565	19.91	20.09	
		2535	19.89	20.01	
		2505	19.92	19.98	
25RB Middle (12)		2565	19.88	20.05	
		2535	19.89	20.01	
		2505	19.94	20.01	
25RB Low (0)		2565	19.88	20.04	
		2535	19.87	19.94	
		2505	19.87	19.93	
50RB (0)		2565	19.93	20.02	
		2535	19.93	19.99	
		2505	19.91	19.95	



15 MHz	1RB High (74)	2562.5	19.72	20.32	
		2535	19.61	19.72	
		2507.5	19.84	20.21	
	1RB Middle (37)	2562.5	19.80	20.37	
		2535	19.80	19.89	
		2507.5	19.92	20.31	
	1RB Low (0)	2562.5	19.74	20.25	
		2535	19.73	19.75	
		2507.5	19.87	20.24	
	36RB High (38)	2562.5	19.86	19.88	
		2535	19.92	19.89	
		2507.5	19.97	20.00	
	36RB Middle (19)	2562.5	19.85	19.88	
		2535	19.89	19.92	
		2507.5	19.93	20.01	
	36RB Low (0)	2562.5	19.81	19.82	
		2535	19.89	19.88	
		2507.5	19.91	19.93	
	75RB (0)	2562.5	19.86	19.91	
		2535	19.87	19.92	
		2507.5	19.89	19.96	
	20 MHz	1RB High (99)	2560	19.69	20.24
			2535	19.59	20.12
			2510	19.68	20.27
		1RB Middle (50)	2560	19.89	20.16
			2535	19.93	20.45
			2510	20.04	20.17
1RB Low (0)		2560	19.64	20.18	
		2535	19.61	20.14	
		2510	19.71	20.27	
50RB High (50)		2560	19.85	20.01	
		2535	19.86	19.88	
		2510	19.85	19.90	
50RB Middle (25)		2560	19.87	20.01	
		2535	19.87	19.92	
		2510	19.89	19.94	
50RB Low (0)		2560	19.84	19.95	
		2535	19.83	19.80	
		2510	19.80	19.88	
100RB (0)		2560	19.87	19.98	
		2535	19.82	19.89	
		2510	19.80	19.87	

## Power Level A1/B1/C1

Band 5				
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)
1.4 MHz	1RB High (5)	848.3	22.70	21.73
		836.5	22.77	21.79
		824.7	22.77	22.06
	1RB Middle (3)	848.3	22.91	21.91
		836.5	22.92	21.94
		824.7	22.94	22.16
	1RB Low (0)	848.3	22.69	21.71
		836.5	22.75	21.80
		824.7	22.76	22.01
	3RB High (3)	848.3	22.82	21.94
		836.5	22.77	21.78
		824.7	22.75	21.91
	3RB Middle (1)	848.3	22.81	21.97
		836.5	22.79	21.82
		824.7	22.83	21.91
	3RB Low (0)	848.3	22.79	21.91
		836.5	22.77	21.74
		824.7	22.77	21.91
	6RB (0)	848.3	21.81	20.96
		836.5	21.79	20.88
		824.7	21.80	20.68
3 MHz	1RB High (14)	847.5	22.78	21.75
		836.5	22.82	21.63
		825.5	22.89	22.09
	1RB Middle (7)	847.5	22.95	21.90
		836.5	22.93	21.80
		825.5	23.01	22.25
	1RB Low (0)	847.5	22.82	21.78
		836.5	22.77	21.68
		825.5	22.86	22.09
	8RB High (7)	847.5	21.86	20.83
		836.5	21.77	20.85
		825.5	21.83	20.85
	8RB Middle (4)	847.5	21.88	20.90
		836.5	21.89	20.93
		825.5	21.88	20.93
	8RB Low (0)	847.5	21.81	20.84
		836.5	21.81	20.88
		825.5	21.80	20.85
	15RB (0)	847.5	21.80	20.76
		836.5	21.77	20.77
		825.5	21.75	20.77
5 MHz	1RB	846.5	22.82	22.17

	High (24)	836.5	22.71	21.76
		826.5	22.76	21.82
	1RB Middle (12)	846.5	23.04	22.43
		836.5	22.98	22.02
		826.5	23.04	22.08
	1RB Low (0)	846.5	22.76	22.15
		836.5	22.71	21.75
		826.5	22.75	21.83
	12RB High (13)	846.5	21.77	20.86
		836.5	21.78	20.76
		826.5	21.73	20.74
	12RB Middle (6)	846.5	21.85	20.96
		836.5	21.82	20.81
		826.5	21.82	20.82
	12RB Low (0)	846.5	21.79	20.91
		836.5	21.74	20.75
		826.5	21.72	20.76
	25RB (0)	846.5	21.79	20.80
		836.5	21.76	20.70
		826.5	21.76	20.72
10 MHz	1RB High (49)	844	22.70	21.96
		836.5	22.66	21.56
		829	22.63	21.49
	1RB Middle (24)	844	22.80	22.05
		836.5	22.73	21.71
		829	22.79	21.62
	1RB Low (0)	844	22.66	21.91
		836.5	22.62	21.54
		829	22.59	21.46
	25RB High (25)	844	21.62	20.63
		836.5	21.65	20.72
		829	21.64	20.61
	25RB Middle (12)	844	21.67	20.67
		836.5	21.65	20.73
		829	21.65	20.65
	25RB Low (0)	844	21.66	20.68
		836.5	21.63	20.70
		829	21.66	20.66
	50RB (0)	844	21.65	20.63
		836.5	21.61	20.65
829		21.61	20.61	

Band 12					
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM	
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)	
1.4 MHz	1RB High (5)	715.3	22.72	21.55	
		707.5	22.65	21.75	
		699.7	22.68	22.06	
	1RB Middle (3)	715.3	22.88	21.73	
		707.5	22.94	21.92	
		699.7	22.90	22.23	
	1RB Low (0)	715.3	22.62	21.51	
		707.5	22.65	21.72	
		699.7	22.61	22.04	
	3RB High (3)	715.3	22.66	21.76	
		707.5	22.69	21.72	
		699.7	22.73	21.99	
	3RB Middle (1)	715.3	22.73	21.78	
		707.5	22.71	21.76	
		699.7	22.77	21.99	
	3RB Low (0)	715.3	22.66	21.72	
		707.5	22.68	21.72	
		699.7	22.82	21.97	
	6RB (0)	715.3	21.73	20.82	
		707.5	21.71	20.85	
		699.7	21.67	20.65	
	3 MHz	1RB High (14)	714.5	22.73	21.52
			707.5	22.64	21.53
			700.5	22.71	22.04
		1RB Middle (7)	714.5	22.88	21.74
			707.5	22.88	21.69
			700.5	22.86	22.22
1RB Low (0)		714.5	22.63	21.64	
		707.5	22.66	21.52	
		700.5	22.68	22.09	
8RB High (7)		714.5	21.61	20.63	
		707.5	21.64	20.77	
		700.5	21.69	20.81	
8RB Middle (4)		714.5	21.66	20.74	
		707.5	21.69	20.84	
		700.5	21.72	20.87	
8RB Low (0)		714.5	21.69	20.70	
		707.5	21.63	20.78	
		700.5	21.66	20.83	
15RB (0)		714.5	21.61	20.59	
		707.5	21.67	20.72	
		700.5	21.65	20.74	
5 MHz		1RB High (24)	713.5	22.52	21.54
			707.5	22.53	21.75
			701.5	22.56	22.02

	1RB Middle (12)	713.5	22.78	21.92	
		707.5	22.83	21.99	
		701.5	22.85	22.34	
	1RB Low (0)	713.5	22.51	21.63	
		707.5	22.54	21.66	
		701.5	22.59	22.08	
	12RB High (13)	713.5	21.49	20.58	
		707.5	21.65	20.73	
		701.5	21.70	20.85	
	12RB Middle (6)	713.5	21.67	20.75	
		707.5	21.65	20.73	
		701.5	21.70	20.85	
	12RB Low (0)	713.5	21.52	20.63	
		707.5	21.70	20.76	
		701.5	21.50	20.68	
	25RB (0)	713.5	21.55	20.55	
		707.5	21.66	20.77	
		701.5	21.68	20.84	
	10 MHz	1RB High (49)	711	22.48	21.33
			707.5	22.45	21.36
			704	22.49	21.84
		1RB Middle (24)	711	22.55	21.62
			707.5	22.64	21.43
			704	22.63	21.91
1RB Low (0)		711	22.47	21.40	
		707.5	22.42	21.28	
		704	22.43	21.84	
25RB High (25)		711	21.48	20.64	
		707.5	21.56	20.66	
		704	21.35	20.46	
25RB Middle (12)		711	21.52	20.68	
		707.5	21.47	20.56	
		704	21.48	20.59	
25RB Low (0)		711	21.50	20.62	
		707.5	21.58	20.64	
		704	21.32	20.43	
50RB (0)		711	21.52	20.60	
		707.5	21.62	20.66	
		704	21.34	20.44	

Band 41				
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)
5 MHz	1RB High (24)	2652.5	22.95	21.99
		2613.5	23.00	22.02
		2575.5	22.88	21.79
		2537.5	22.91	21.88
	1RB Middle (12)	2652.5	23.04	21.99
		2613.5	23.00	22.04
		2575.5	22.89	21.78
		2537.5	22.91	21.89
	1RB Low (0)	2652.5	22.97	22.00
		2613.5	23.01	22.01
		2575.5	22.87	21.77
		2537.5	22.94	21.97
	12RB High (13)	2652.5	22.09	21.06
		2613.5	22.03	20.97
		2575.5	21.97	20.90
		2537.5	22.07	20.90
	12RB Middle (6)	2652.5	22.25	21.20
		2613.5	22.13	21.07
		2575.5	22.08	20.99
		2537.5	22.11	20.95
	12RB Low (0)	2652.5	22.16	21.13
		2613.5	22.03	20.99
		2575.5	21.97	20.86
		2537.5	21.98	20.85
	25RB (0)	2652.5	22.18	21.24
		2613.5	22.00	21.00
		2575.5	21.99	20.91
		2537.5	22.02	20.93
10 MHz	1RB High (49)	2650	22.95	21.94
		2612	22.93	21.92
		2576	23.01	21.90
		2540	22.90	21.96
	1RB Middle (24)	2650	23.20	22.18
		2612	23.19	22.19
		2576	23.24	22.10
		2540	23.18	22.25
	1RB	2650	22.89	21.86

	Low (0)	2612	22.87	21.87
		2576	22.99	21.80
		2540	22.94	22.04
	25RB High (25)	2650	22.01	20.97
		2612	22.00	20.97
		2576	21.95	20.90
		2540	22.02	20.93
	25RB Middle (12)	2650	22.00	20.95
		2612	22.03	20.97
		2576	21.96	20.88
		2540	21.97	20.89
	25RB Low (0)	2650	22.03	21.00
		2612	22.03	21.00
		2576	21.95	20.88
		2540	21.94	20.86
	50RB (0)	2650	21.98	20.93
		2612	21.96	20.93
		2576	21.93	20.89
		2540	21.89	20.86
	15 MHz	1RB High (74)	2647.5	22.79
2612.5			22.81	21.86
2577.5			22.90	21.89
2542.5			22.82	21.74
1RB Middle (37)		2647.5	22.94	21.99
		2612.5	22.93	21.97
		2577.5	23.03	21.98
		2542.5	22.96	21.86
1RB Low (0)		2647.5	22.85	21.92
		2612.5	22.81	21.86
		2577.5	22.92	21.86
		2542.5	22.92	21.82
36RB High (38)		2647.5	22.00	21.06
		2612.5	21.97	20.93
		2577.5	21.99	20.91
		2542.5	22.01	20.89
36RB Middle (19)		2647.5	22.02	21.06
		2612.5	22.01	20.96
		2577.5	22.02	20.94
		2542.5	22.00	20.90
36RB Low (0)		2647.5	22.03	21.10
		2612.5	22.00	20.94
		2577.5	21.98	20.90

		2542.5	21.94	20.83
	75RB (0)	2647.5	22.00	21.11
		2612.5	21.96	20.96
		2577.5	21.98	20.92
		2542.5	21.96	20.89
20 MHz	1RB High (99)	2645	22.92	21.96
		2611	22.88	21.79
		2578	22.84	21.65
		2545	22.80	21.83
	1RB Middle (50)	2645	23.20	22.30
		2611	23.13	22.07
		2578	23.06	21.88
		2545	23.07	22.11
	1RB Low (0)	2645	22.88	22.00
		2611	22.92	21.83
		2578	22.83	21.59
		2545	22.83	21.91
	50RB High (50)	2645	21.98	21.05
		2611	21.89	20.83
		2578	21.81	20.76
		2545	21.87	20.80
	50RB Middle (25)	2645	22.10	21.16
		2611	21.90	20.92
		2578	21.91	20.82
		2545	21.85	20.83
	50RB Low (0)	2645	22.14	21.20
		2611	21.92	20.88
		2578	21.82	20.77
		2545	21.74	20.70
	100RB (0)	2645	22.08	21.08
		2611	21.92	20.89
		2578	21.83	20.80
		2545	21.79	20.71



Uplink maximum output power is measured with downlink carrier aggregation active, using the channel with highest measured maximum output power when downlink carrier aggregation is inactive. SAR test is not required since maximum output power when downlink carrier aggregation active is not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.

ULLTE CA Class	PCC				SCC				Power	
	PCC Bandwidth	channel	RB	RB OFFSET	SCC Bandwidth	channel	RB	RB OFFSET	tune up	conducted power (dBm)
CA 41C	20M	40140	1	99	5M	40257	1	0	23.5	23.15
CA 41C	15M	40115	1	74	10M	40235	1	0	23.5	23.10
CA 41C	20M	40140	1	99	15M	40284	1	0	23.5	23.16
CA 41C	15M	40115	1	74	15M	40265	1	0	23.5	23.10
CA 41C	20M	40140	1	99	15M	40311	1	0	23.5	23.15
CA 41C	20M	40140	1	99	20M	40338	1	0	23.5	23.14
CA 41C	20M	40140	1	99	5M	41025	1	0	23.5	23.09
CA 41C	10M	40996	1	49	20M	41140	1	0	23.5	23.00
CA 41C	15M	41015	1	74	15M	41165	1	0	23.5	23.10
CA 41C	15M	40969	1	74	20M	41140	1	0	23.5	23.01

### 11.4 Wi-Fi and BT Measurement result

The maximum output power of BT is 11.01dBm.

The maximum tune up of BT is 12dBm.

The average conducted power for Wi-Fi is as following:

**The conducted output power for WiFi 2.4G is as following:**

FCC	
802.11b(dBm)	
Channel\data rate	1Mbps
11(2462MHz)	17.77
6(2437MHz)	17.72
1(2412MHz)	17.20
Tune up	18.00
802.11g(dBm)	
Channel\data rate	6Mbps
11(2462MHz)	16.38
6(2437MHz)	16.30
1(2412MHz)	15.94
Tune up	16.50
802.11n(dBm)-20MHz	
Channel\data rate	MCS0
11(2462MHz)	15.17
6(2437MHz)	15.22
1(2412MHz)	14.78
Tune up	15.50

**The conducted output power for WiFi 5G is as following:**

5GHz	
802.11ac(dBm)-20MHz	
Channel\data rate	MCS0
36(5180 MHz)	12.73
40(5200 MHz)	12.82
44(5220 MHz)	12.88
48(5240 MHz)	12.83
52(5260 MHz)	12.63
56(5280 MHz)	12.77
60(5300 MHz)	12.80
64(5320 MHz)	12.91
Tune up	13.50
149(5745 MHz)	16.07
153(5765 MHz)	16.01
157(5785 MHz)	15.94
161(5805 MHz)	15.95
165(5825 MHz)	15.87
Tune up	17.00
802.11ac(dBm)-80MHz	
Channel\data rate	MCS0
106(5530 MHz)	13.73
122(5610 MHz)	13.92
138(5690 MHz)	14.42
Tune up	15.00

## 12 Simultaneous TX SAR Considerations

### 12.1 Introduction

The following procedures adopted from “FCC SAR Considerations for Cell Phones with Multiple Transmitters” are applicable to handsets with built-in unlicensed transmitters such as 802.11 a/b/g and Bluetooth devices which may simultaneously transmit with the licensed transmitter.

For this device, the BT and Wi-Fi can transmit simultaneous with other transmitters.

### 12.2 Transmit Antenna Separation Distances

#### P612BN Antennas Placements

- a = 39.5mm
- b = 12.4mm
- c = 5.3mm
- d = 8.9mm
- e = 35.5mm
- f = 8.7 mm
- g = 6.0 mm
- h = 4.0 mm
- i = 65.0 mm



Picture 12.1 Antenna Locations

### 12.3 SAR Measurement Positions

According to the KDB941225 D06 Hot Spot SAR v01, the edges with less than 2.5 cm distance to the antennas need to be tested for SAR.

SAR measurement positions						
Mode	Front	Rear	Left edge	Right edge	Top edge	Bottom edge
Main antenna	Yes	Yes	Yes	Yes	No	Yes
Diversity antenna	Yes	Yes	No	Yes	Yes	No
WIFI antenna	Yes	Yes	Yes	No	Yes	No

### 12.4 Standalone SAR Test Exclusion Considerations

Standalone 1-g head or body SAR evaluation by measurement or numerical simulation is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied. The 1-g SAR test exclusion threshold for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$  for 1-g SAR, where

- $f(\text{GHz})$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

**Table 12.1: Standalone SAR test exclusion considerations**

Band/Mode	F(GHz)	Position	SAR test exclusion threshold(mW)	RF output power		SAR test exclusion
				dBm	mW	
Bluetooth	2.441	Head	9.60	12	15.85	Yes
		Body	19.20	12	15.85	No
2.4GHz WLAN	2.45	Head	9.58	18	63.10	No
		Body	9.58	18	63.10	No
5GHz WLAN	5.2	Head	6.58	13.5	22.39	No
		Body	13.16	13.5	22.39	No
	5.3	Head	6.52	13.5	22.39	No
		Body	13.03	13.5	22.39	No
	5.6	Head	6.34	15	31.62	No
		Body	12.68	15	31.62	No
	5.8	Head	6.23	17	50.12	No
		Body	12.46	17	50.12	No

### 13 Evaluation of Simultaneous

**Table 13.1: The sum of reported SAR values for Main antenna and WiFi-2.4G**

	Position	Cellular antenna	WiFi2.4G	Sum
<b>Highest reported SAR value for Head</b>	Right hand, Cheek	0.18	0.55	<b>0.73</b>
<b>Highest reported SAR value for Body</b>	Rear 10mm	1.14	0.21	<b>1.35</b>

Note1: the test positions of above tables are for the worse case that have been evaluated.

**Table 13.2: The sum of reported SAR values for Main antenna + WiFi-5G+BT**

	Position	Cellular antenna	WiFi5G	BT	Sum
<b>Highest reported SAR value for Head</b>	Right hand, Tilt	0.10	0.96	<0.01 <sup>[1]</sup>	<b>1.06</b>
<b>Maximum reported SAR value for Body</b>	Rear 10mm	1.14	0.39	<0.01 <sup>[1]</sup>	<b>1.53</b>

Note1: the test positions of above tables are for the worse case that have been evaluated.

[1] – The SAR of BT is too low to get it, so the “<0.01” is used to indicate the head and body SAR of BT.

**Table 13.3: The sum of reported SAR values for Diversity antenna and WiFi-2.4G**

	Position	Cellular antenna	WiFi2.4G	Sum
<b>Highest reported SAR value for Head</b>	Left hand, Tilt	1.00	0.19	<b>1.19</b>
<b>Highest reported SAR value for Body</b>	Rear 10mm	0.68	0.21	<b>0.89</b>

Note1: the test positions of above tables are for the worse case that have been evaluated.

**Table 13.4: The sum of reported SAR values for Diversity antenna + WiFi-5G+BT**

	Position	Cellular antenna	WiFi5G	BT	Sum
<b>Highest reported SAR value for Head</b>	Right hand, Tilt	0.58	0.96	<0.01 <sup>[1]</sup>	<b>1.54</b>
<b>Maximum reported SAR value for Body</b>	Rear 10mm	0.68	0.39	<0.01 <sup>[1]</sup>	<b>1.07</b>

Note1: the test positions of above tables are for the worse case that have been evaluated.

[1] – The SAR of BT is too low to get it, so the “<0.01” is used to indicate the head and body SAR of BT.

#### Conclusion:

According to the above tables, the sum of reported SAR values is <1.6W/kg. So the simultaneous transmission SAR with volume scans is not required.

## 14 SAR Test Result

It is determined by user manual for the distance between the EUT and the phantom bottom. The distance is 10 mm or 15mm and just applied to the condition of body worn accessory.

It is performed for all SAR measurements with area scan based 1-g SAR estimation (Fast SAR). A zoom scan measurement is added when the estimated 1-gSAR is the highest measured SAR in each exposure configuration, wireless mode and frequency band combination or more than 1.2W/kg.

The calculated SAR is obtained by the following formula:

$$\text{Reported SAR} = \text{Measured SAR} \times 10^{(P_{\text{Target}} - P_{\text{Measured}})/10}$$

Where  $P_{\text{Target}}$  is the power of manufacturing upper limit;

$P_{\text{Measured}}$  is the measured power in chapter 11.

**Table 14.1: Duty Cycle**

Mode	Duty Cycle
Speech for GSM850/1900	1:8.3
GPRS&EGPRS for GSM850/1900-Normal Power	1:2
GPRS&EGPRS for GSM1900-Low Power	1:2
WCDMA&LTE FDD	1:1
LTE TDD	1:1.58

We'll perform the head measurement in all bands with the primary SIM card depending on the evaluation of multi-SIM cards and retest on highest value point with other SIM cards. Then, repeat the measurement in the Body test.

**Table 14.1: The evaluation of multi-SIM cards for Head Test**

Frequency		Mode/Band	Side	Test Position	SIM	SAR(1g) (W/kg)	Power Drift(dB)
MHz	Ch.						
836.6	190	GSM850	Left	Touch	SIM1	0.105	-0.10
836.6	190	GSM850	Left	Touch	SIM2	0.100	0.09

Note: According to the values in the above table, the **SIM1** is the primary SIM card.

We'll perform the head measurement with the SIM1 and retest on highest value point with others.

**Table 14.2: The evaluation of multi-SIM cards for Body Test**

Frequency		Mode/Band	Position	SIM	SAR(1g) (W/kg)	Power Drift
MHz	Channel					
836.6	190	GSM850	Rear	SIM1	0.310	0.07
836.6	190	GSM850	Rear	SIM2	0.294	0.11

Note: According to the values in the above table, the **SIM1** is the primary SIM card.

We'll perform the head measurement with the SIM1 and retest on highest value point with others.

### 14.1 SAR results for Fast SAR (Main antenna)

**Table 14.1-1: SAR Values (GSM 850 MHz Band - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Side	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
251	848.8	Left	Touch	/	32.18	33.50	0.085	<b>0.12</b>	0.111	<b>0.15</b>	0.01
190	836.6	Left	Touch	/	32.17	33.50	0.078	<b>0.11</b>	0.105	<b>0.14</b>	-0.10
128	824.2	Left	Touch	Fig.1	32.13	33.50	0.094	<b>0.13</b>	0.123	<b>0.17</b>	-0.04
190	836.6	Left	Tilt	/	32.17	33.50	0.029	<b>0.04</b>	0.036	<b>0.05</b>	-0.08
190	836.6	Right	Touch	/	32.17	33.50	0.075	<b>0.10</b>	0.096	<b>0.13</b>	-0.12
190	836.6	Right	Tilt	/	32.17	33.50	0.056	<b>0.08</b>	0.073	<b>0.10</b>	0.02
128	824.2	Left	Touch	S2	32.13	33.50	0.083	<b>0.11</b>	0.114	<b>0.16</b>	0.07

**Table 14.1-2: SAR Values (GSM 850 MHz Band - Body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode (number of timeslots)	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
190	836.6	GPRS (4)	Front	/	28.71	29.50	0.088	<b>0.11</b>	0.159	<b>0.19</b>	-0.09
251	848.8	GPRS (4)	Rear	/	28.68	29.50	0.179	<b>0.22</b>	0.291	<b>0.35</b>	-0.09
190	836.6	GPRS (4)	Rear	/	28.71	29.50	0.197	<b>0.24</b>	0.310	<b>0.37</b>	0.07
128	824.2	GPRS (4)	Rear	Fig.2	28.73	29.50	0.230	<b>0.27</b>	0.366	<b>0.44</b>	-0.08
190	836.6	GPRS (4)	Left	/	28.71	29.50	0.133	<b>0.16</b>	0.227	<b>0.27</b>	-0.05
190	836.6	GPRS (4)	Right	/	28.71	29.50	0.145	<b>0.17</b>	0.252	<b>0.30</b>	-0.01
190	836.6	GPRS (4)	Bottom	/	28.71	29.50	0.029	<b>0.03</b>	0.059	<b>0.07</b>	-0.08
128	824.2	EGPRS (4)	Rear	/	28.69	29.50	0.178	<b>0.21</b>	0.285	<b>0.34</b>	0.07
128	824.2	GPRS (4)	Rear	S2	28.73	29.50	0.204	<b>0.24</b>	0.327	<b>0.39</b>	0.16

Note: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.1-3: SAR Values (GSM 1900 MHz Band - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Side	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
661	1880	Left	Touch	/	29.57	30.50	0.057	<b>0.07</b>	0.089	<b>0.11</b>	0.04
661	1880	Left	Tilt	/	29.57	30.50	0.041	<b>0.05</b>	0.065	<b>0.08</b>	-0.06
810	1909.8	Right	Touch	/	29.52	30.50	0.049	<b>0.06</b>	0.078	<b>0.10</b>	0.13
661	1880	Right	Touch	/	29.57	30.50	0.053	<b>0.07</b>	0.084	<b>0.10</b>	-0.06
512	1850.2	Right	Touch	Fig.3	29.49	30.50	0.062	<b>0.08</b>	0.099	<b>0.12</b>	-0.09
661	1880	Right	Tilt	/	29.57	30.50	0.034	<b>0.04</b>	0.053	<b>0.07</b>	0.10

512	1850.2	Right	Touch	S2	29.49	30.50	0.051	<b>0.06</b>	0.084	<b>0.11</b>	0.11
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**Table 14.1-4: SAR Values (GSM 1900 MHz Band - Body)**

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C											
Frequency		Mode (number of timeslots)	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
661	1880	GPRS (4)	Front	/	21.74	23.00	0.097	<b>0.21</b>	0.164	<b>0.22</b>	0.11
661	1880	GPRS (4)	Rear	/	21.74	23.00	0.208	<b>0.28</b>	0.410	<b>0.55</b>	0.05
661	1880	GPRS (4)	Left	/	21.74	23.00	0.029	<b>0.04</b>	0.047	<b>0.06</b>	-0.01
661	1880	GPRS (4)	Right	/	21.74	23.00	0.039	<b>0.05</b>	0.066	<b>0.09</b>	0.13
810	1909.8	GPRS (4)	Bottom	/	21.73	23.00	0.177	<b>0.24</b>	0.353	<b>0.47</b>	-0.06
661	1880	GPRS (4)	Bottom	/	21.74	23.00	0.229	<b>0.31</b>	0.444	<b>0.59</b>	0.11
512	1850.2	GPRS (4)	Bottom	Fig.4	21.60	23.00	0.300	<b>0.41</b>	0.588	<b>0.81</b>	0.08
512	1850.2	EGPRS (4)	Bottom	/	21.60	23.00	0.264	<b>0.36</b>	0.507	<b>0.70</b>	-0.11
512	1850.2	GPRS (4)	Bottom	S2	21.60	23.00	0.274	<b>0.38</b>	0.541	<b>0.75</b>	0.16

Note: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.1-5: SAR Values (GSM 1900 MHz Band - Body)**

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C											
Frequency		Mode (number of timeslots)	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
661	1880	GPRS (4)	Front	/	26.06	27.00	0.157	<b>0.19</b>	0.260	<b>0.32</b>	0.02
810	1909.8	GPRS (4)	Rear	/	26.06	27.00	0.172	<b>0.21</b>	0.297	<b>0.37</b>	-0.01
661	1880	GPRS (4)	Rear	/	26.04	27.00	0.240	<b>0.30</b>	0.428	<b>0.53</b>	0.05
512	1850.2	GPRS (4)	Rear	Fig.5	25.94	27.00	0.301	<b>0.38</b>	0.535	<b>0.68</b>	0.07
512	1850.2	EGPRS (4)	Rear	/	25.91	27.00	0.287	<b>0.37</b>	0.501	<b>0.64</b>	0.11
512	1850.2	GPRS (4)	Rear	S2	25.94	27.00	0.279	<b>0.36</b>	0.504	<b>0.64</b>	0.13

Note: The distance between the EUT and the phantom bottom is 15mm.

**Table 14.1-6: SAR Values (WCDMA 850 MHz Band - Head)**

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C											
Frequency		Side	Test Position	Figure No./N ote	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measure d SAR(10g ) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reporte d SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
4233	846.6	Left	Touch	/	22.88	24.00	0.085	<b>0.11</b>	0.110	<b>0.14</b>	0.01
4182	836.4	Left	Touch	Fig.6	22.91	24.00	0.086	<b>0.11</b>	0.112	<b>0.14</b>	-0.04
4132	826.4	Left	Touch	/	22.90	24.00	0.074	<b>0.10</b>	0.096	<b>0.12</b>	0.03
4182	836.4	Left	Tilt	/	22.91	24.00	0.050	<b>0.06</b>	0.061	<b>0.08</b>	0.13
4182	836.4	Right	Touch	/	22.91	24.00	0.081	<b>0.10</b>	0.102	<b>0.13</b>	-0.13
4182	836.4	Right	Tilt	/	22.91	24.00	0.054	<b>0.07</b>	0.068	<b>0.09</b>	0.06



4182	836.4	Left	Touch	S2	22.91	24.00	0.081	<b>0.10</b>	0.104	<b>0.13</b>	0.16
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**Table 14.1-7: SAR Values (WCDMA 850 MHz Band - Body)**

Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5 °C		Power Drift (dB)
Ch.	MHz					Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	
4182	836.4	Front	/	22.91	24.00	0.053	<b>0.07</b>	0.085	<b>0.11</b>	0.05
4233	846.6	Rear	/	22.88	24.00	0.101	<b>0.13</b>	0.138	<b>0.18</b>	0.04
4182	836.4	Rear	/	22.91	24.00	0.092	<b>0.12</b>	0.141	<b>0.18</b>	0.07
4132	826.4	Rear	Fig.7	22.90	24.00	0.098	<b>0.13</b>	0.154	<b>0.20</b>	-0.11
4182	836.4	Left	/	22.91	24.00	0.078	<b>0.10</b>	0.116	<b>0.15</b>	-0.04
4182	836.4	Right	/	22.91	24.00	0.078	<b>0.10</b>	0.120	<b>0.15</b>	0.06
4182	836.4	Bottom	/	22.91	24.00	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
4132	826.4	Rear	S2	22.90	24.00	0.091	<b>0.12</b>	0.141	<b>0.18</b>	0.08

Note: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.1-8: SAR Values (WCDMA 1900 MHz Band - Head)**

Frequency		Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5 °C		Power Drift (dB)
Ch.	MHz						Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	
9400	1880	Left	Touch	/	22.55	23.50	0.053	<b>0.07</b>	0.080	<b>0.10</b>	0.02
9538	1907.6	Left	Tilt	Fig.8	22.51	23.50	0.069	<b>0.09</b>	0.112	<b>0.14</b>	-0.12
9400	1880	Left	Tilt	/	22.55	23.50	0.065	<b>0.08</b>	0.104	<b>0.13</b>	-0.05
9262	1852.4	Left	Tilt	/	22.49	23.50	0.059	<b>0.07</b>	0.096	<b>0.12</b>	0.01
9400	1880	Right	Touch	/	22.55	23.50	0.065	<b>0.08</b>	0.100	<b>0.12</b>	0.05
9400	1880	Right	Tilt	/	22.55	23.50	0.050	<b>0.06</b>	0.078	<b>0.10</b>	0.00
9538	1907.6	Left	Tilt	S2	22.51	23.50	0.060	<b>0.08</b>	0.091	<b>0.11</b>	0.14

**Table 14.1-9: SAR Values (WCDMA 1900 MHz Band - Body)**

Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5 °C		Power Drift (dB)
Ch.	MHz					Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	
9400	1880	Front	/	19.51	21.00	0.113	<b>0.16</b>	0.196	<b>0.28</b>	-0.11
9400	1880	Rear	/	19.51	21.00	0.201	<b>0.28</b>	0.366	<b>0.52</b>	-0.12
9400	1880	Left	/	19.51	21.00	0.044	<b>0.06</b>	0.076	<b>0.11</b>	-0.07
9400	1880	Right	/	19.51	21.00	0.047	<b>0.07</b>	0.083	<b>0.12</b>	-0.10
9538	1907.6	Bottom	/	19.43	21.00	0.230	<b>0.33</b>	0.459	<b>0.66</b>	-0.13
9400	1880	Bottom	/	19.51	21.00	0.284	<b>0.40</b>	0.490	<b>0.69</b>	0.03
9262	1852.4	Bottom	Fig.9	19.54	21.00	0.370	<b>0.52</b>	0.732	<b>1.02</b>	-0.11

9262	1852.4	Bottom	S2	19.54	21.00	0.342	<b>0.48</b>	0.701	<b>0.98</b>	0.16
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Note1: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.1-10: SAR Values (WCDMA 1900 MHz Band - Body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C				
Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
9400	1880	Front	/	22.55	23.50	0.124	<b>0.15</b>	0.197	<b>0.25</b>	0.09
9538	1907.6	Rear	/	22.51	23.50	0.180	<b>0.23</b>	0.326	<b>0.41</b>	-0.08
9400	1880	Rear	/	22.55	23.50	0.230	<b>0.29</b>	0.423	<b>0.53</b>	0.03
9262	1852.4	Rear	Fig.10	22.49	23.50	0.301	<b>0.38</b>	0.552	<b>0.70</b>	0.01
9262	1852.4	Rear	S2	22.49	23.50	0.279	<b>0.35</b>	0.526	<b>0.66</b>	0.17

Note1: The distance between the EUT and the phantom bottom is 15mm.

**Table 14.1-11: SAR Values (LTE Band2 - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
19100	1900	1RB_Mid	Left	Touch	/	22.99	23.50	0.082	<b>0.09</b>	0.125	<b>0.14</b>	0.04
19100	1900	1RB_Mid	Left	Tilt	/	22.99	23.50	0.069	<b>0.08</b>	0.112	<b>0.13</b>	-0.07
19100	1900	1RB_Mid	Right	Touch	Fig.11	22.99	23.50	0.099	<b>0.11</b>	0.158	<b>0.18</b>	-0.13
19100	1900	1RB_Mid	Right	Tilt	/	22.99	23.50	0.059	<b>0.07</b>	0.093	<b>0.10</b>	0.13
19100	1900	50RB_Mid	Left	Touch	/	21.86	22.50	0.055	<b>0.06</b>	0.088	<b>0.10</b>	0.02
19100	1900	50RB_Mid	Left	Tilt	/	21.86	22.50	0.070	<b>0.08</b>	0.113	<b>0.13</b>	-0.10
19100	1900	50RB_Mid	Right	Touch	/	21.86	22.50	0.077	<b>0.09</b>	0.121	<b>0.14</b>	0.02
19100	1900	50RB_Mid	Right	Tilt	/	21.86	22.50	0.046	<b>0.05</b>	0.071	<b>0.08</b>	0.10
19100	1900	1RB_Mid	Right	Touch	S2	22.99	23.50	0.092	<b>0.10</b>	0.151	<b>0.17</b>	0.17

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.1-12: SAR Values (LTE Band2 - Body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
18700	1860	1RB_Mid	Front	/	21.03	21.50	0.218	<b>0.24</b>	0.362	<b>0.40</b>	0.08
19100	1900	1RB_Mid	Rear	/	21.01	21.50	0.364	<b>0.41</b>	0.738	<b>0.83</b>	0.03
18900	1880	1RB_Mid	Rear	/	21.02	21.50	0.423	<b>0.47</b>	0.874	<b>0.98</b>	0.07
18700	1860	1RB_Mid	Rear	/	21.03	21.50	0.493	<b>0.55</b>	1.020	<b>1.14</b>	0.07

18700	1860	1RB_Mid	Left	/	21.03	21.50	0.056	<b>0.06</b>	0.093	<b>0.10</b>	-0.06
18700	1860	1RB_Mid	Right	/	21.03	21.50	0.092	<b>0.10</b>	0.155	<b>0.17</b>	0.08
19100	1900	1RB_Mid	Bottom	/	21.01	21.50	0.439	<b>0.49</b>	0.851	<b>0.95</b>	0.16
18900	1880	1RB_Mid	Bottom	/	21.02	21.50	0.496	<b>0.55</b>	0.951	<b>1.06</b>	0.03
18700	1860	1RB_Mid	Bottom	Fig.12	21.03	21.50	0.532	<b>0.59</b>	1.030	<b>1.15</b>	-0.12
18900	1880	50RB_Low	Front	/	20.88	21.50	0.204	<b>0.24</b>	0.340	<b>0.39</b>	-0.13
19100	1900	50RB_Mid	Rear	/	20.86	21.50	0.368	<b>0.43</b>	0.748	<b>0.87</b>	0.09
18900	1880	50RB_Low	Rear	/	20.88	21.50	0.409	<b>0.47</b>	0.815	<b>0.94</b>	-0.05
18700	1860	50RB_Mid	Rear	/	20.85	21.50	0.446	<b>0.52</b>	0.905	<b>1.05</b>	-0.02
18900	1880	50RB_Low	Left	/	20.88	21.50	0.061	<b>0.07</b>	0.101	<b>0.12</b>	0.04
18900	1880	50RB_Low	Right	/	20.88	21.50	0.088	<b>0.10</b>	0.149	<b>0.17</b>	-0.09
19100	1900	50RB_Mid	Bottom	/	20.86	21.50	0.399	<b>0.46</b>	0.786	<b>0.91</b>	0.07
18900	1880	50RB_Low	Bottom	/	20.88	21.50	0.461	<b>0.53</b>	0.895	<b>1.03</b>	-0.11
18700	1860	50RB_Mid	Bottom	/	20.85	21.50	0.517	<b>0.60</b>	0.985	<b>1.14</b>	0.16
18900	1880	100RB	Rear	/	20.87	21.50	0.410	<b>0.47</b>	0.804	<b>0.93</b>	0.02
18900	1880	100RB	Bottom	/	20.87	21.50	0.444	<b>0.51</b>	0.871	<b>1.01</b>	0.08
18700	1860	1RB_Mid	Bottom	S2	21.03	21.50	0.507	<b>0.56</b>	0.981	<b>1.09</b>	0.14

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.1-13: SAR Values (LTE Band2 - Body)**

Ambient Temperature: 22.9 °C					Liquid Temperature: 22.5 °C						
Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
19100	1900	1RB_Mid	Front	/	22.99	23.50	0.103	<b>0.12</b>	0.179	<b>0.20</b>	0.11
19100	1900	1RB_Mid	Rear	Fig.13	22.99	23.50	0.167	<b>0.19</b>	0.301	<b>0.34</b>	0.12
19100	1900	50RB_Mid	Front	/	21.86	22.50	0.080	<b>0.09</b>	0.137	<b>0.16</b>	-0.10
19100	1900	50RB_Mid	Rear	/	21.86	22.50	0.128	<b>0.15</b>	0.232	<b>0.27</b>	0.09
19100	1900	1RB_Mid	Rear	S2	22.99	23.50	0.137	<b>0.15</b>	0.274	<b>0.31</b>	0.03

Note1: The distance between the EUT and the phantom bottom is 15mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.1-14: SAR Values (LTE Band5 - Head)**

Ambient Temperature: 22.9 °C					Liquid Temperature: 22.5 °C							
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
20600	844	1RB_Mid	Left	Touch	Fig.14	22.80	23.50	0.091	<b>0.11</b>	0.119	<b>0.14</b>	0.05
20600	844	1RB_Mid	Left	Tilt	/	22.80	23.50	0.043	<b>0.05</b>	0.054	<b>0.06</b>	-0.07
20600	844	1RB_Mid	Right	Touch	/	22.80	23.50	0.080	<b>0.09</b>	0.103	<b>0.12</b>	-0.09
20600	844	1RB_Mid	Right	Tilt	/	22.80	23.50	0.050	<b>0.06</b>	0.064	<b>0.08</b>	0.08

20600	844	25RB_Mid	Left	Touch	/	21.67	22.50	0.076	<b>0.09</b>	0.100	<b>0.12</b>	-0.02
20600	844	25RB_Mid	Left	Tilt	/	21.67	22.50	0.039	<b>0.05</b>	0.048	<b>0.06</b>	-0.09
20600	844	25RB_Mid	Right	Touch	/	21.67	22.50	0.065	<b>0.08</b>	0.083	<b>0.10</b>	-0.12
20600	844	25RB_Mid	Right	Tilt	/	21.67	22.50	0.039	<b>0.05</b>	0.050	<b>0.06</b>	-0.10
20600	844	1RB_Mid	Left	Touch	S2	22.80	23.50	0.086	<b>0.10</b>	0.107	<b>0.13</b>	0.06

Note1: The LTE mode is QPSK\_10MHz.

**Table 14.1-15: SAR Values (LTE Band5 - Body)**

Ambient Temperature: 22.9°C						Liquid Temperature: 22.5°C					
Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
20600	844	1RB_Mid	Front	/	22.80	23.50	0.081	<b>0.10</b>	0.127	<b>0.15</b>	-0.08
20600	844	1RB_Mid	Rear	Fig.15	22.80	23.50	0.128	<b>0.15</b>	0.203	<b>0.24</b>	0.12
20600	844	1RB_Mid	Left	/	22.80	23.50	0.088	<b>0.10</b>	0.154	<b>0.18</b>	-0.05
20600	844	1RB_Mid	Right	/	22.80	23.50	0.096	<b>0.11</b>	0.168	<b>0.20</b>	0.11
20600	844	1RB_Mid	Bottom	/	22.80	23.50	0.019	<b>0.02</b>	0.040	<b>0.05</b>	-0.08
20600	844	25RB_Mid	Front	/	21.67	22.50	0.066	<b>0.08</b>	0.103	<b>0.12</b>	-0.08
20600	844	25RB_Mid	Rear	/	21.67	22.50	0.100	<b>0.12</b>	0.159	<b>0.19</b>	-0.08
20600	844	25RB_Mid	Left	/	21.67	22.50	0.075	<b>0.09</b>	0.131	<b>0.16</b>	-0.08
20600	844	25RB_Mid	Right	/	21.67	22.50	0.068	<b>0.08</b>	0.119	<b>0.14</b>	0.08
20600	844	25RB_Mid	Bottom	/	21.67	22.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
20600	844	1RB_Mid	Rear	S2	22.80	23.50	0.114	<b>0.13</b>	0.183	<b>0.22</b>	0.04

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_10MHz.

**Table 14.1-16: SAR Values (LTE Band7 - Head)**

Ambient Temperature: 22.9°C						Liquid Temperature: 22.5°C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
20850	2510	1RB_Mid	Left	Touch	/	22.97	23.50	0.012	<b>0.01</b>	0.022	<b>0.02</b>	0.05
20850	2510	1RB_Mid	Left	Tilt	/	22.97	23.50	0.011	<b>0.01</b>	0.022	<b>0.02</b>	-0.01
20850	2510	1RB_Mid	Right	Touch	Fig.16	22.97	23.50	0.025	<b>0.03</b>	0.049	<b>0.06</b>	-0.03
20850	2510	1RB_Mid	Right	Tilt	/	22.97	23.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
20850	2510	50RB_Mid	Left	Touch	/	21.84	22.50	0.010	<b>0.01</b>	0.019	<b>0.02</b>	0.09
20850	2510	50RB_Mid	Left	Tilt	/	21.84	22.50	0.008	<b>0.01</b>	0.016	<b>0.02</b>	0.00
20850	2510	50RB_Mid	Right	Touch	/	21.84	22.50	0.019	<b>0.02</b>	0.037	<b>0.04</b>	-0.12
20850	2510	50RB_Mid	Right	Tilt	/	21.84	22.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
20850	2510	1RB_Mid	Right	Touch	S2	22.97	23.50	0.021	<b>0.02</b>	0.043	<b>0.05</b>	0.19

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.1-17: SAR Values (LTE Band7 - Body)**

Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
Ambient Temperature: 22.9 °C      Liquid Temperature: 22.5 °C											
21850	2510	1RB_Mid	Front	/	22.97	23.50	0.213	<b>0.24</b>	0.408	<b>0.46</b>	0.00
21350	2560	1RB_Mid	Rear	/	22.83	23.50	0.412	<b>0.48</b>	0.947	<b>1.10</b>	-0.09
21100	2535	1RB_Mid	Rear	Fig.17	22.94	23.50	0.422	<b>0.48</b>	0.969	<b>1.10</b>	0.09
21850	2510	1RB_Mid	Rear	/	22.97	23.50	0.417	<b>0.47</b>	0.956	<b>1.08</b>	-0.01
21850	2510	1RB_Mid	Left	/	22.97	23.50	0.039	<b>0.04</b>	0.081	<b>0.09</b>	-0.01
21850	2510	1RB_Mid	Right	/	22.97	23.50	0.099	<b>0.11</b>	0.181	<b>0.20</b>	-0.07
21350	2560	1RB_Mid	Bottom	/	22.83	23.50	0.405	<b>0.47</b>	0.943	<b>1.10</b>	0.13
21100	2535	1RB_Mid	Bottom	/	22.94	23.50	0.403	<b>0.46</b>	0.902	<b>1.03</b>	-0.08
21850	2510	1RB_Mid	Bottom	/	22.97	23.50	0.384	<b>0.43</b>	0.853	<b>0.96</b>	-0.08
21850	2510	50RB_Mid	Front	/	21.84	22.50	0.172	<b>0.20</b>	0.354	<b>0.41</b>	0.01
21350	2560	50RB_Mid	Rear	/	21.83	22.50	0.329	<b>0.38</b>	0.752	<b>0.88</b>	-0.07
21100	2535	50RB_Mid	Rear	/	21.82	22.50	0.352	<b>0.41</b>	0.801	<b>0.94</b>	-0.06
21850	2510	50RB_Mid	Rear	/	21.84	22.50	0.341	<b>0.40</b>	0.774	<b>0.90</b>	0.12
21850	2510	50RB_Mid	Left	/	21.84	22.50	0.027	<b>0.03</b>	0.054	<b>0.06</b>	0.06
21850	2510	50RB_Mid	Right	/	21.84	22.50	0.051	<b>0.06</b>	0.110	<b>0.13</b>	0.08
21350	2560	50RB_Mid	Bottom	/	21.83	22.50	0.278	<b>0.32</b>	0.672	<b>0.78</b>	0.06
21100	2535	50RB_Mid	Bottom	/	21.82	22.50	0.297	<b>0.35</b>	0.716	<b>0.84</b>	0.17
21850	2510	50RB_Mid	Bottom	/	21.84	22.50	0.288	<b>0.34</b>	0.692	<b>0.81</b>	-0.09
21350	2560	100RB	Rear	/	21.80	22.50	0.348	<b>0.41</b>	0.791	<b>0.93</b>	0.17
21350	2560	100RB	Bottom	/	21.80	22.50	0.291	<b>0.34</b>	0.704	<b>0.83</b>	0.04
21100	2535	1RB_Mid	Rear	S2	22.94	23.50	0.410	<b>0.47</b>	0.922	<b>1.05</b>	0.06

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.1-18: SAR Values (LTE Band12 - Head)**

Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
Ambient Temperature: 22.9 °C      Liquid Temperature: 22.5 °C												
23095	707.5	1RB_Mid	Left	Touch	/	22.64	23.50	0.068	<b>0.08</b>	0.088	<b>0.11</b>	0.04
23095	707.5	1RB_Mid	Left	Tilt	/	22.64	23.50	0.039	<b>0.05</b>	0.048	<b>0.06</b>	-0.02
23095	707.5	1RB_Mid	Right	Touch	Fig.18	22.64	23.50	0.074	<b>0.09</b>	0.094	<b>0.11</b>	-0.08
23095	707.5	1RB_Mid	Right	Tilt	/	22.64	23.50	0.039	<b>0.05</b>	0.047	<b>0.06</b>	-0.09
23095	707.5	25RB_Low	Left	Touch	/	21.58	22.50	0.046	<b>0.06</b>	0.061	<b>0.08</b>	0.06
23095	707.5	25RB_Low	Left	Tilt	/	21.58	22.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
23095	707.5	25RB_Low	Right	Touch	/	21.58	22.50	0.035	<b>0.04</b>	0.048	<b>0.06</b>	0.11

23095	707.5	25RB_Low	Right	Tilt	/	21.58	22.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
23095	707.5	1RB_Mid	Right	Touch	S2	22.64	23.50	0.069	<b>0.08</b>	0.087	<b>0.11</b>	0.14

Note1: The LTE mode is QPSK\_10MHz.

**Table 14.1-19: SAR Values (LTE Band12 - Body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
23095	707.5	1RB_Mid	Front	/	22.64	23.50	0.095	<b>0.12</b>	0.122	<b>0.15</b>	0.11
23095	707.5	1RB_Mid	Rear	Fig.19	22.64	23.50	0.179	<b>0.22</b>	0.233	<b>0.28</b>	0.03
23095	707.5	1RB_Mid	Left	/	22.64	23.50	0.137	<b>0.17</b>	0.196	<b>0.24</b>	-0.02
23095	707.5	1RB_Mid	Right	/	22.64	23.50	0.140	<b>0.17</b>	0.201	<b>0.25</b>	0.05
23095	707.5	1RB_Mid	Bottom	/	22.64	23.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
23095	707.5	25RB_Low	Front	/	21.58	22.50	0.068	<b>0.08</b>	0.088	<b>0.11</b>	-0.08
23095	707.5	25RB_Low	Rear	/	21.58	22.50	0.142	<b>0.18</b>	0.186	<b>0.23</b>	0.08
23095	707.5	25RB_Low	Left	/	21.58	22.50	0.113	<b>0.14</b>	0.161	<b>0.20</b>	0.05
23095	707.5	25RB_Low	Right	/	21.58	22.50	0.115	<b>0.14</b>	0.166	<b>0.21</b>	-0.05
23095	707.5	25RB_Low	Bottom	/	21.58	22.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
23095	707.5	1RB_Mid	Rear	S2	22.64	23.50	0.153	<b>0.19</b>	0.207	<b>0.25</b>	0.07

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_10MHz.

**Table 14.1-20: SAR Values (LTE Band41 - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
41140	2645	1RB_Mid	Left	Touch	Fig.20	23.20	23.50	0.007	<b>0.01</b>	0.015	<b>0.02</b>	-0.02
41140	2645	1RB_Mid	Left	Tilt	/	23.20	23.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
41140	2645	1RB_Mid	Right	Touch	/	23.20	23.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
41140	2645	1RB_Mid	Right	Tilt	/	23.20	23.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
41140	2645	50RB_Low	Left	Touch	/	22.14	22.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
41140	2645	50RB_Low	Left	Tilt	/	22.14	22.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
41140	2645	50RB_Low	Right	Touch	/	22.14	22.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
41140	2645	50RB_Low	Right	Tilt	/	22.14	22.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
41140	2645	1RB_High	Left	Touch	ULCA	23.16	23.50	0.050	<b>0.05</b>	0.011	<b>0.01</b>	0.05
41140	2645	1RB_Mid	Left	Touch	S2	23.20	23.50	0.006	<b>0.01</b>	0.013	<b>0.01</b>	0.05

Note1: The LTE mode is QPSK\_20MHz.



**Table 14.1-21: SAR Values (LTE Band41 - Body)**

Frequency		Ambient Temperature: 22.9 °C					Liquid Temperature: 22.5 °C				
Ch.	MHz	Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
41140	2645	1RB_Mid	Front	/	23.20	23.50	0.062	<b>0.07</b>	0.127	<b>0.14</b>	-0.03
41140	2645	1RB_Mid	Rear	/	23.20	23.50	0.093	<b>0.10</b>	0.220	<b>0.24</b>	-0.13
41140	2645	1RB_Mid	Left	/	23.20	23.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
41140	2645	1RB_Mid	Right	/	23.20	23.50	0.030	<b>0.03</b>	0.058	<b>0.06</b>	-0.12
41140	2645	1RB_Mid	Bottom	Fig.21	23.20	23.50	0.113	<b>0.12</b>	0.259	<b>0.28</b>	0.01
41140	2645	50RB_Low	Front	/	22.14	22.50	0.057	<b>0.06</b>	0.119	<b>0.13</b>	-0.06
41140	2645	50RB_Low	Rear	/	22.14	22.50	0.093	<b>0.10</b>	0.216	<b>0.23</b>	0.04
41140	2645	50RB_Low	Left	/	22.14	22.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
41140	2645	50RB_Low	Right	/	22.14	22.50	0.027	<b>0.03</b>	0.055	<b>0.06</b>	-0.12
41140	2645	50RB_Low	Bottom	/	22.14	22.50	0.110	<b>0.12</b>	0.253	<b>0.27</b>	0.07
41140	2645	1RB_High	Bottom	ULCA	23.16	23.50	0.110	<b>0.12</b>	0.243	<b>0.26</b>	0.07
41140	2645	1RB_Mid	Bottom	S2	23.20	23.50	0.104	<b>0.11</b>	0.239	<b>0.26</b>	0.15

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.1-22: SAR Values (LTE band66 - Head)**

Frequency		Ambient Temperature: 22.9 °C					Liquid Temperature: 22.5 °C					
Ch.	MHz	Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
132752	1770	1RB_Mid	Left	Touch	/	22.50	23.50	0.059	<b>0.07</b>	0.092	<b>0.12</b>	-0.04
132752	1770	1RB_Mid	Left	Tilt	/	22.50	23.50	0.036	<b>0.05</b>	0.057	<b>0.07</b>	0.10
132752	1770	1RB_Mid	Right	Touch	Fig.22	22.50	23.50	0.068	<b>0.09</b>	0.109	<b>0.14</b>	0.06
132752	1770	1RB_Mid	Right	Tilt	/	22.50	23.50	0.038	<b>0.05</b>	0.060	<b>0.08</b>	-0.08
132752	1770	50RB_Low	Left	Touch	/	21.42	22.50	0.045	<b>0.06</b>	0.068	<b>0.09</b>	-0.09
132752	1770	50RB_Low	Left	Tilt	/	21.42	22.50	0.026	<b>0.03</b>	0.041	<b>0.05</b>	-0.07
132752	1770	50RB_Low	Right	Touch	/	21.42	22.50	0.054	<b>0.07</b>	0.087	<b>0.11</b>	0.00
132752	1770	50RB_Low	Right	Tilt	/	21.42	22.50	0.029	<b>0.04</b>	0.047	<b>0.06</b>	-0.03
132752	1770	1RB_Mid	Right	Touch	S2	22.50	23.50	0.061	<b>0.08</b>	0.099	<b>0.12</b>	0.14

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.1-23: SAR Values (LTE band66 - Body)**

Frequency		Mode	Test Position	Figure No./ Note	Ambient Temperature: 22.9°C		Liquid Temperature: 22.5°C				Power Drift (dB)
Ch.	MHz				Conducted Power (dBm)	tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	
132752	1770	1RB_Mid	Front	/	19.50	20.00	0.163	<b>0.18</b>	0.282	<b>0.32</b>	0.12
132752	1770	1RB_Mid	Rear	/	19.50	20.00	0.482	<b>0.54</b>	0.916	<b>1.03</b>	0.01
132322	1745	1RB_Mid	Rear	/	19.42	20.00	0.458	<b>0.52</b>	0.914	<b>1.04</b>	0.05
132072	1720	1RB_Mid	Rear	/	19.45	20.00	0.482	<b>0.55</b>	0.938	<b>1.06</b>	0.17
132752	1770	1RB_Mid	Left	/	19.50	20.00	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
132752	1770	1RB_Mid	Right	/	19.50	20.00	0.045	<b>0.05</b>	0.075	<b>0.08</b>	0.10
132752	1770	1RB_Mid	Bottom	/	19.50	20.00	0.551	<b>0.62</b>	1.040	<b>1.17</b>	-0.07
132322	1745	1RB_Mid	Bottom	/	19.42	20.00	0.450	<b>0.51</b>	0.912	<b>1.04</b>	0.06
132072	1720	1RB_Mid	Bottom	/	19.45	20.00	0.455	<b>0.52</b>	0.933	<b>1.06</b>	0.07
132752	1770	50RB_Low	Front	/	19.45	20.00	0.162	<b>0.18</b>	0.283	<b>0.32</b>	-0.05
132752	1770	50RB_Low	Rear	/	19.45	20.00	0.443	<b>0.50</b>	0.905	<b>1.03</b>	0.06
132322	1745	50RB_High	Rear	/	19.38	20.00	0.451	<b>0.52</b>	0.907	<b>1.05</b>	0.14
132072	1720	50RB_Mid	Rear	/	19.35	20.00	0.478	<b>0.56</b>	0.916	<b>1.06</b>	0.03
132752	1770	50RB_Low	Left	/	19.45	20.00	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
132752	1770	50RB_Low	Right	/	19.45	20.00	0.043	<b>0.05</b>	0.072	<b>0.08</b>	-0.04
132752	1770	50RB_Low	Bottom	Fig.23	19.45	20.00	0.564	<b>0.64</b>	1.07	<b>1.21</b>	0.06
132322	1745	50RB_High	Bottom	/	19.38	20.00	0.471	<b>0.54</b>	0.936	<b>1.08</b>	-0.05
132072	1720	50RB_Mid	Bottom	/	19.35	20.00	0.415	<b>0.48</b>	0.848	<b>0.98</b>	-0.01
132752	1770	100RB	Rear	/	19.37	20.00	0.468	<b>0.54</b>	0.919	<b>1.06</b>	0.05
132752	1770	100RB	Bottom	/	19.37	20.00	0.401	<b>0.46</b>	0.825	<b>0.95</b>	-0.09
132752	1770	50RB_Low	Bottom	Headset	19.45	20.00	0.539	<b>0.61</b>	0.971	<b>1.10</b>	0.05
132752	1770	50RB_Low	Bottom	S2	19.45	20.00	0.551	<b>0.63</b>	0.987	<b>1.12</b>	0.16

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.1-24: SAR Values (LTE band66 - Body)**

Frequency		Mode	Test Position	Figure No./ Note	Ambient Temperature: 22.9°C		Liquid Temperature: 22.5°C				Power Drift (dB)
Ch.	MHz				Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	
132752	1770	1RB_Mid	Front	/	22.50	23.50	0.155	<b>0.20</b>	0.257	<b>0.32</b>	-0.02
132752	1770	1RB_Mid	Rear	Fig.24	22.50	23.50	0.384	<b>0.48</b>	0.671	<b>0.84</b>	0.06
132322	1745	1RB_Mid	Rear	/	22.40	23.50	0.347	<b>0.45</b>	0.626	<b>0.81</b>	0.15
132072	1720	1RB_Mid	Rear	/	22.43	23.50	0.359	<b>0.46</b>	0.639	<b>0.82</b>	0.01
132752	1770	50RB_Low	Front	/	21.42	22.50	0.121	<b>0.16</b>	0.201	<b>0.26</b>	-0.02
132752	1770	50RB_Low	Rear	/	21.42	22.50	0.303	<b>0.39</b>	0.539	<b>0.69</b>	-0.09
132752	1770	100RB	Rear	/	21.34	22.50	0.294	<b>0.38</b>	0.511	<b>0.67</b>	0.07



132752	1770	1RB_Mid	Rear	S2	22.50	23.50	0.361	<b>0.45</b>	0.647	<b>0.81</b>	0.02
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Note1: The distance between the EUT and the phantom bottom is 15mm.

Note2: The LTE mode is QPSK\_20MHz.

According to the KDB648474 D04, the UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at  $\leq 25$  mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB Publication 865664 D01 to address interactive hand use exposure conditions. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR  $> 1.2$  W/kg

**Table 14.1-30: 0mm Reported SAR for phablet (10g)**

		Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C					
Band	Frequency		Mode	Test Position	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
	Ch.	MHz									
GSM1900	810	1909.8	/	Bottom	26.06	27.00	1.78	<b>2.21</b>	4.25	<b>5.28</b>	0.02
GSM1900	661	1880	/	Bottom	26.04	27.00	1.93	<b>2.41</b>	4.56	<b>5.69</b>	0.17
GSM1900	512	1850.2	/	Bottom	25.94	27.00	2.60	<b>3.32</b>	6.15	<b>7.85</b>	0.06
WCDMA1900	9938	1907.6	RMC	Bottom	22.51	23.50	1.92	<b>2.41</b>	4.86	<b>6.10</b>	0.05
WCDMA1900	9800	1880	RMC	Bottom	22.55	23.50	2.11	<b>2.63</b>	5.62	<b>6.99</b>	-0.11
WCDMA1900	9662	1852.4	RMC	Bottom	22.49	23.50	2.48	<b>3.13</b>	6.60	<b>8.33</b>	0.03
LTE Band 2	19100	1900	1RB_Mid	Bottom	22.99	23.50	2.21	<b>2.49</b>	5.28	<b>5.94</b>	-0.04
LTE Band 2	18900	1880	1RB_Mid	Bottom	22.94	23.50	2.45	<b>2.79</b>	5.85	<b>6.66</b>	-0.12
LTE Band 2	18700	1860	1RB_Mid	Bottom	22.88	23.50	2.69	<b>3.10</b>	6.36	<b>7.34</b>	-0.06
LTE Band 66	132752	1770	1RB_Mid	Bottom	22.50	23.50	2.97	<b>3.74</b>	6.94	<b>8.74</b>	0.06
LTE Band 66	132322	1745	1RB_Mid	Bottom	22.40	23.50	2.67	<b>3.44</b>	6.24	<b>8.04</b>	0.11
LTE Band 66	132072	1720	1RB_Mid	Bottom	22.43	23.50	2.57	<b>3.29</b>	5.84	<b>7.47</b>	-0.06

Note: The distance between the EUT and the phantom bottom is 0mm.

## 14.2 SAR results for Standard procedure (Main antenna)

There is zoom scan measurement to be added for the highest measured SAR in each exposure configuration/band.

**Table 14.2-1: SAR Values (GSM 850 MHz Band - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C					
Frequency		Side	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
128	824.2	Left	Touch	Fig.1	32.13	33.50	0.094	<b>0.13</b>	0.123	<b>0.17</b>	-0.04

**Table 14.2-2: SAR Values (GSM 850 MHz Band - Body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C					
Frequency		Mode (number of timeslots)	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
128	824.2	GPRS (4)	Rear	Fig.2	28.73	29.50	0.230	<b>0.27</b>	0.366	<b>0.44</b>	-0.08

Note: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.2-3: SAR Values (GSM 1900 MHz Band - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C					
Frequency		Side	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
512	1850.2	Right	Touch	Fig.3	29.49	30.50	0.062	<b>0.08</b>	0.099	<b>0.12</b>	-0.09

**Table 14.2-4: SAR Values (GSM 1900 MHz Band - Body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C					
Frequency		Mode (number of timeslots)	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
512	1850.2	GPRS (4)	Bottom	Fig.4	21.60	23.00	0.300	<b>0.41</b>	0.588	<b>0.81</b>	0.08

Note: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.2-5: SAR Values (GSM 1900 MHz Band - Body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C					
Frequency		Mode (number of timeslots)	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
512	1850.2	GPRS (4)	Rear	Fig.5	25.94	27.00	0.301	<b>0.38</b>	0.535	<b>0.68</b>	0.07

Note: The distance between the EUT and the phantom bottom is 15mm.

**Table 14.2-6: SAR Values (WCDMA 850 MHz Band - Head)**

Frequency		Side	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C											
4182	836.4	Left	Touch	Fig.6	22.91	24.00	0.086	<b>0.11</b>	0.112	<b>0.14</b>	-0.04

**Table 14.2-7: SAR Values (WCDMA 850 MHz Band - Body)**

Frequency		Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C										
4132	826.4	Rear	Fig.7	22.90	24.00	0.098	<b>0.13</b>	0.154	<b>0.20</b>	-0.11

Note: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.2-8: SAR Values (WCDMA 1900 MHz Band - Head)**

Frequency		Side	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C											
9538	1907.6	Left	Tilt	Fig.8	22.51	23.50	0.069	<b>0.09</b>	0.112	<b>0.14</b>	-0.12

**Table 14.2-9: SAR Values (WCDMA 1900 MHz Band - Body)**

Frequency		Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C										
9262	1852.4	Bottom	Fig.9	19.54	21.00	0.370	<b>0.52</b>	0.732	<b>1.02</b>	-0.11

Note1: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.2-10: SAR Values (WCDMA 1900 MHz Band - Body)**

Frequency		Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C										
9262	1852.4	Rear	Fig.10	22.49	23.50	0.301	<b>0.38</b>	0.552	<b>0.70</b>	0.01

Note1: The distance between the EUT and the phantom bottom is 15mm.

**Table 14.2-11: SAR Values (LTE Band2 - Head)**

Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
19100	1900	1RB_Mid	Right	Touch	Fig.11	22.99	23.50	0.099	<b>0.11</b>	0.158	<b>0.18</b>	-0.13

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.2-12: SAR Values (LTE Band2 - Body)**

Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
18700	1860	1RB_Mid	Bottom	Fig.12	21.03	21.50	0.532	<b>0.59</b>	1.030	<b>1.15</b>	-0.12

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.2-13: SAR Values (LTE Band2 - Body)**

Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
19100	1900	1RB_Mid	Rear	Fig.13	22.99	23.50	0.167	<b>0.19</b>	0.301	<b>0.34</b>	0.12

Note1: The distance between the EUT and the phantom bottom is 15mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.2-14: SAR Values (LTE Band5 - Head)**

Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
20600	844	1RB_Mid	Left	Touch	Fig.14	22.80	23.50	0.091	<b>0.11</b>	0.119	<b>0.14</b>	0.05

Note1: The LTE mode is QPSK\_10MHz.

**Table 14.2-15: SAR Values (LTE Band5 - Body)**

Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
20600	844	1RB_Mid	Rear	Fig.15	22.80	23.50	0.128	<b>0.15</b>	0.203	<b>0.24</b>	0.12

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_10MHz.

**Table 14.2-16: SAR Values (LTE Band7 - Head)**

Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
20850	2510	1RB_Mid	Right	Touch	Fig.16	22.97	23.50	0.025	<b>0.03</b>	0.049	<b>0.06</b>	-0.03

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.2-17: SAR Values (LTE Band7 - Body)**

Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
21100	2535	1RB_Mid	Rear	Fig.17	22.94	23.50	0.422	<b>0.48</b>	0.969	<b>1.10</b>	0.09

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.2-18: SAR Values (LTE Band12 - Head)**

Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
23095	707.5	1RB_Mid	Right	Touch	Fig.18	22.64	23.50	0.074	<b>0.09</b>	0.094	<b>0.11</b>	-0.08

Note1: The LTE mode is QPSK\_10MHz.

**Table 14.2-19: SAR Values (LTE Band12 - Body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
23095	707.5	1RB_Mid	Rear	Fig.19	22.64	23.50	0.179	<b>0.22</b>	0.233	<b>0.28</b>	0.03

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_10MHz.

**Table 14.2-20: SAR Values (LTE Band41 - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
41140	2645	1RB_Mid	Left	Touch	Fig.20	23.20	23.50	0.007	<b>0.01</b>	0.015	<b>0.02</b>	-0.02

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.2-21: SAR Values (LTE Band41 - Body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
41140	2645	1RB_Mid	Bottom	Fig.21	23.20	23.50	0.113	<b>0.12</b>	0.259	<b>0.28</b>	0.01

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.2-22: SAR Values (LTE band66 - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
132752	1770	1RB_Mid	Right	Touch	Fig.22	22.50	23.50	0.068	<b>0.09</b>	0.109	<b>0.14</b>	0.06

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.2-23: SAR Values (LTE band66 - Body)**

Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
132752	1770	50RB_Low	Bottom	Fig.23	19.45	20.00	0.564	<b>0.64</b>	1.07	<b>1.21</b>	0.06

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.2-24: SAR Values (LTE band66 - Body)**

Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
132752	1770	1RB_Mid	Rear	Fig.24	22.50	23.50	0.384	<b>0.48</b>	0.671	<b>0.84</b>	0.06

Note1: The distance between the EUT and the phantom bottom is 15mm.

Note2: The LTE mode is QPSK\_20MHz.

### 14.3 SAR results for Fast SAR (Diversity antenna)

**Table 14.3-1: SAR Values (GSM 850 MHz Band - Head)**

Frequency		Side	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
190	836.6	Left	Touch	/	32.17	33.50	0.253	<b>0.34</b>	0.417	<b>0.57</b>	-0.09
251	848.8	Left	Tilt	Fig.25	32.18	33.50	0.309	<b>0.42</b>	0.736	<b>1.00</b>	0.11
190	836.6	Left	Tilt	/	32.17	33.50	0.264	<b>0.36</b>	0.643	<b>0.87</b>	0.02
128	824.2	Left	Tilt		32.13	33.50	0.225	<b>0.31</b>	0.528	<b>0.72</b>	-0.03
190	836.6	Right	Touch	/	32.17	33.50	0.214	<b>0.29</b>	0.402	<b>0.55</b>	0.05
190	836.6	Right	Tilt	/	32.17	33.50	0.207	<b>0.28</b>	0.428	<b>0.58</b>	0.05
251	848.8	Left	Tilt	S2	32.18	33.50	0.287	<b>0.39</b>	0.707	<b>0.96</b>	0.19



**Table 14.3-2: SAR Values (GSM 850 MHz Band - Body)**

Frequency		Mode (number of timeslots)	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C											
190	836.6	GPRS (4)	Front	/	28.71	29.50	0.081	<b>0.10</b>	0.132	<b>0.16</b>	0.04
251	848.8	GPRS (4)	Rear	/	28.68	29.50	0.119	<b>0.14</b>	0.230	<b>0.28</b>	-0.04
190	836.6	GPRS (4)	Rear	Fig.26	28.71	29.50	0.146	<b>0.18</b>	0.244	<b>0.29</b>	-0.01
128	824.2	GPRS (4)	Rear	/	28.73	29.50	0.092	<b>0.11</b>	0.168	<b>0.20</b>	0.09
190	836.6	GPRS (4)	Right	/	28.71	29.50	0.062	<b>0.07</b>	0.099	<b>0.12</b>	0.04
190	836.6	GPRS (4)	Top	/	28.71	29.50	0.101	<b>0.12</b>	0.186	<b>0.22</b>	-0.07
190	836.6	EGPRS (4)	Rear	/	28.66	29.50	0.140	<b>0.17</b>	0.232	<b>0.28</b>	0.11
190	836.6	GPRS (4)	Rear	S2	28.71	29.50	0.132	<b>0.16</b>	0.217	<b>0.26</b>	0.16

Note: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.3-3: SAR Values (GSM 1900 MHz Band - Head)**

Frequency		Side	Test Position	Figure No./ Note	Conducte d Power (dBm)	Max. tune-up Power (dBm)	Measure d SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measure d SAR(1g) (W/kg)	Reporte d SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C											
661	1880	Left	Touch	/	29.57	30.50	0.114	<b>0.14</b>	0.224	<b>0.28</b>	0.11
810	1909.8	Left	Tilt	Fig.27	29.52	30.50	0.170	<b>0.21</b>	0.362	<b>0.45</b>	-0.05
661	1880	Left	Tilt	/	29.57	30.50	0.116	<b>0.14</b>	0.236	<b>0.29</b>	0.02
512	1850.2	Left	Tilt	/	29.49	30.50	0.108	<b>0.14</b>	0.217	<b>0.27</b>	-0.11
661	1880	Right	Touch	/	29.57	30.50	0.070	<b>0.09</b>	0.136	<b>0.17</b>	-0.02
661	1880	Right	Tilt	/	29.57	30.50	0.093	<b>0.12</b>	0.192	<b>0.24</b>	0.04
810	1909.8	Left	Tilt	S2	29.52	30.50	0.152	<b>0.19</b>	0.341	<b>0.43</b>	0.17

**Table 14.3-4: SAR Values (GSM 1900 MHz Band - Body)**

Frequency		Mode (number of timeslots)	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C											
661	1880	GPRS (4)	Front	/	26.06	27.00	0.073	<b>0.09</b>	0.132	<b>0.16</b>	0.03
810	1909.8	GPRS (4)	Rear	Fig.28	26.06	27.00	0.257	<b>0.32</b>	0.551	<b>0.68</b>	0.11
661	1880	GPRS (4)	Rear	/	26.06	27.00	0.233	<b>0.29</b>	0.491	<b>0.61</b>	-0.12
512	1850.2	GPRS (4)	Rear	/	25.94	27.00	0.208	<b>0.27</b>	0.423	<b>0.54</b>	0.07
661	1880	GPRS (4)	Right	/	26.06	27.00	0.050	<b>0.06</b>	0.090	<b>0.11</b>	-0.03
661	1880	GPRS (4)	Top	/	26.06	27.00	0.152	<b>0.19</b>	0.303	<b>0.38</b>	-0.02
810	1909.8	EGPRS (4)	Rear	/	26.04	27.00	0.226	<b>0.28</b>	0.505	<b>0.63</b>	-0.08
810	1909.8	GPRS (4)	Rear	S2	26.06	27.00	0.241	<b>0.30</b>	0.536	<b>0.67</b>	0.05

Note: The distance between the EUT and the phantom bottom is 10mm.



**Table 14.3-5: SAR Values (WCDMA 850 MHz Band - Head)**

Frequency		Side	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
Ambient Temperature: 22.9 °C      Liquid Temperature: 22.5 °C											
4233	846.6	Left	Touch	Fig.29	22.88	24.00	0.172	<b>0.22</b>	0.273	<b>0.35</b>	-0.05
4182	836.4	Left	Touch	/	22.91	24.00	0.167	<b>0.21</b>	0.231	<b>0.30</b>	0.07
4132	826.4	Left	Touch	/	22.90	24.00	0.150	<b>0.19</b>	0.208	<b>0.27</b>	-0.06
4182	836.4	Left	Tilt	/	22.91	24.00	0.142	<b>0.18</b>	0.212	<b>0.27</b>	-0.08
4182	836.4	Right	Touch	/	22.91	24.00	0.116	<b>0.15</b>	0.143	<b>0.18</b>	0.02
4182	836.4	Right	Tilt	/	22.91	24.00	0.101	<b>0.13</b>	0.134	<b>0.17</b>	-0.09
4233	846.6	Left	Touch	S2	22.88	24.00	0.164	<b>0.21</b>	0.257	<b>0.33</b>	0.01

**Table 14.3-6: SAR Values (WCDMA 850 MHz Band - Body)**

Frequency		Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
Ambient Temperature: 22.9 °C      Liquid Temperature: 22.5 °C										
4182	836.4	Front	/	22.91	24.00	0.042	<b>0.05</b>	0.066	<b>0.08</b>	0.13
4233	846.6	Rear	/	22.88	24.00	0.080	<b>0.10</b>	0.130	<b>0.17</b>	-0.13
4182	836.4	Rear	Fig.30	22.91	24.00	0.081	<b>0.10</b>	0.131	<b>0.17</b>	0.10
4132	826.4	Rear	/	22.90	24.00	0.058	<b>0.07</b>	0.094	<b>0.12</b>	-0.11
4182	836.4	Right	/	22.91	24.00	0.021	<b>0.03</b>	0.033	<b>0.04</b>	0.12
4182	836.4	Top	/	22.91	24.00	0.052	<b>0.07</b>	0.099	<b>0.13</b>	-0.10
4182	836.4	Rear	S2	22.91	24.00	0.075	<b>0.10</b>	0.124	<b>0.16</b>	0.06

Note: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.3-7: SAR Values (WCDMA 1900 MHz Band - Head)**

Frequency		Side	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
Ambient Temperature: 22.9 °C      Liquid Temperature: 22.5 °C											
9538	1907.6	Left	Touch	Fig.31	22.51	23.50	0.181	<b>0.23</b>	0.321	<b>0.40</b>	0.06
9400	1880	Left	Touch	/	22.55	23.50	0.170	<b>0.21</b>	0.293	<b>0.36</b>	0.09
9262	1852.4	Left	Touch	/	22.49	23.50	0.167	<b>0.21</b>	0.286	<b>0.36</b>	0.03
9400	1880	Left	Tilt	/	22.55	23.50	0.169	<b>0.21</b>	0.292	<b>0.36</b>	-0.02
9400	1880	Right	Touch	/	22.55	23.50	0.110	<b>0.14</b>	0.191	<b>0.24</b>	0.07
9400	1880	Right	Tilt	/	22.55	23.50	0.132	<b>0.16</b>	0.238	<b>0.30</b>	-0.13
9538	1907.6	Left	Touch	S2	22.51	23.50	0.164	<b>0.21</b>	0.282	<b>0.35</b>	0.08

**Table 14.3-8: SAR Values (WCDMA 1900 MHz Band - Body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C				
Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
9400	1880	Front	/	22.55	23.50	0.071	<b>0.09</b>	0.127	<b>0.16</b>	0.05
9538	1907.6	Rear	Fig.32	22.51	23.50	0.216	<b>0.27</b>	0.452	<b>0.57</b>	0.09
9400	1880	Rear	/	22.55	23.50	0.188	<b>0.23</b>	0.376	<b>0.47</b>	-0.01
9262	1852.4	Rear	/	22.49	23.50	0.182	<b>0.23</b>	0.362	<b>0.46</b>	-0.02
9400	1880	Right	/	22.55	23.50	0.060	<b>0.07</b>	0.107	<b>0.13</b>	0.05
9400	1880	Top	/	22.55	23.50	0.133	<b>0.17</b>	0.269	<b>0.33</b>	-0.07
9538	1907.6	Rear	S2	22.51	23.50	0.201	<b>0.25</b>	0.439	<b>0.55</b>	0.01

Note1: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.3-9: SAR Values (LTE Band2 - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
19100	1900	1RB_Mid	Left	Touch	Fig.33	22.99	23.50	0.267	<b>0.30</b>	0.514	<b>0.58</b>	0.07
19100	1900	1RB_Mid	Left	Tilt	/	22.99	23.50	0.154	<b>0.17</b>	0.300	<b>0.34</b>	-0.10
19100	1900	1RB_Mid	Right	Touch	/	22.99	23.50	0.126	<b>0.14</b>	0.235	<b>0.26</b>	-0.09
19100	1900	1RB_Mid	Right	Tilt	/	22.99	23.50	0.179	<b>0.20</b>	0.341	<b>0.38</b>	-0.09
19100	1900	50RB_Mid	Left	Touch	/	21.86	22.50	0.195	<b>0.23</b>	0.384	<b>0.44</b>	0.03
19100	1900	50RB_Mid	Left	Tilt	/	21.86	22.50	0.114	<b>0.13</b>	0.220	<b>0.25</b>	0.11
19100	1900	50RB_Mid	Right	Touch	/	21.86	22.50	0.098	<b>0.11</b>	0.182	<b>0.21</b>	0.07
19100	1900	50RB_Mid	Right	Tilt	/	21.86	22.50	0.138	<b>0.16</b>	0.262	<b>0.30</b>	-0.03
19100	1900	1RB_Mid	Left	Touch	S2	22.99	23.50	0.234	<b>0.26</b>	0.479	<b>0.54</b>	0.01

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.3-10: SAR Values (LTE Band2 - Body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
19100	1900	1RB_Mid	Front	/	22.99	23.50	0.076	<b>0.09</b>	0.141	<b>0.16</b>	-0.10
19100	1900	1RB_Mid	Rear	Fig.34	22.99	23.50	0.240	<b>0.27</b>	0.508	<b>0.57</b>	0.11
19100	1900	1RB_Mid	Right	/	22.99	23.50	0.054	<b>0.06</b>	0.096	<b>0.11</b>	0.02
19100	1900	1RB_Mid	Top	/	22.99	23.50	0.194	<b>0.22</b>	0.395	<b>0.44</b>	-0.02
19100	1900	50RB_Mid	Front	/	21.86	22.50	0.058	<b>0.07</b>	0.107	<b>0.12</b>	0.12

19100	1900	50RB_Mid	Rear		21.86	22.50	0.183	<b>0.21</b>	0.388	<b>0.45</b>	0.02
19100	1900	50RB_Mid	Right	/	21.86	22.50	0.039	<b>0.05</b>	0.067	<b>0.08</b>	0.13
19100	1900	50RB_Mid	Top	/	21.86	22.50	0.151	<b>0.17</b>	0.306	<b>0.35</b>	-0.02
19100	1900	1RB_Mid	Rear	S2	22.99	23.50	0.221	<b>0.25</b>	0.482	<b>0.54</b>	0.07

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.3-11: SAR Values (LTE Band5 - Head)**

Ambient Temperature: 22.9 °C					Liquid Temperature: 22.5 °C							
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
20600	844	1RB_Mid	Left	Touch	Fig.35	22.80	23.50	0.290	<b>0.34</b>	0.554	<b>0.65</b>	0.05
20600	844	1RB_Mid	Left	Tilt	/	22.80	23.50	0.228	<b>0.27</b>	0.465	<b>0.55</b>	0.13
20600	844	1RB_Mid	Right	Touch	/	22.80	23.50	0.094	<b>0.11</b>	0.164	<b>0.19</b>	0.10
20600	844	1RB_Mid	Right	Tilt	/	22.80	23.50	0.147	<b>0.17</b>	0.278	<b>0.33</b>	0.03
20600	844	25RB_Mid	Left	Touch	/	21.67	22.50	0.122	<b>0.15</b>	0.251	<b>0.30</b>	0.04
20600	844	25RB_Mid	Left	Tilt	/	21.67	22.50	0.230	<b>0.28</b>	0.406	<b>0.49</b>	-0.04
20600	844	25RB_Mid	Right	Touch	/	21.67	22.50	0.072	<b>0.09</b>	0.125	<b>0.15</b>	0.09
20600	844	25RB_Mid	Right	Tilt	/	21.67	22.50	0.114	<b>0.14</b>	0.215	<b>0.26</b>	-0.01
20600	844	1RB_Mid	Left	Touch	S2	22.80	23.50	0.264	<b>0.31</b>	0.527	<b>0.62</b>	0.16

Note1: The LTE mode is QPSK\_10MHz.

**Table 14.3-12: SAR Values (LTE Band5 - Body)**

Ambient Temperature: 22.9 °C					Liquid Temperature: 22.5 °C						
Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
20600	844	1RB_Mid	Front	/	22.80	23.50	0.070	<b>0.08</b>	0.110	<b>0.13</b>	0.10
20600	844	1RB_Mid	Rear	Fig.36	22.80	23.50	0.121	<b>0.14</b>	0.193	<b>0.23</b>	-0.08
20600	844	1RB_Mid	Right	/	22.80	23.50	0.038	<b>0.04</b>	0.058	<b>0.07</b>	-0.06
20600	844	1RB_Mid	Top	/	22.80	23.50	0.082	<b>0.10</b>	0.155	<b>0.18</b>	-0.11
20600	844	25RB_Mid	Front	/	21.67	22.50	0.053	<b>0.06</b>	0.083	<b>0.10</b>	-0.03
20600	844	25RB_Mid	Rear	/	21.67	22.50	0.103	<b>0.12</b>	0.158	<b>0.19</b>	-0.03
20600	844	25RB_Mid	Right	/	21.67	22.50	0.030	<b>0.04</b>	0.044	<b>0.05</b>	0.00
20600	844	25RB_Mid	Top	/	21.67	22.50	0.064	<b>0.08</b>	0.120	<b>0.15</b>	-0.05
20600	844	1RB_Mid	Rear	S2	22.80	23.50	0.107	<b>0.13</b>	0.176	<b>0.21</b>	0.02

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_10MHz.

**Table 14.3-13: SAR Values (LTE Band7 - Head)**

Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C												
21350	2560	1RB_Mid	Left	Touch	/	19.89	20.50	0.405	<b>0.47</b>	0.772	<b>0.89</b>	-0.03
21100	2535	1RB_Mid	Left	Touch	Fig.37	19.93	20.50	0.355	<b>0.40</b>	0.787	<b>0.90</b>	-0.1
20850	2510	1RB_Mid	Left	Touch	/	20.04	20.50	0.325	<b>0.36</b>	0.719	<b>0.80</b>	-0.07
21350	2560	1RB_Mid	Left	Tilt	/	19.89	20.50	0.287	<b>0.33</b>	0.710	<b>0.82</b>	0.01
21100	2535	1RB_Mid	Left	Tilt	/	19.93	20.50	0.285	<b>0.32</b>	0.705	<b>0.80</b>	-0.12
20850	2510	1RB_Mid	Left	Tilt	/	20.04	20.50	0.279	<b>0.31</b>	0.701	<b>0.78</b>	-0.05
20850	2510	1RB_Mid	Right	Touch	/	20.04	20.50	0.098	<b>0.11</b>	0.213	<b>0.24</b>	0.02
20850	2510	1RB_Mid	Right	Tilt	/	20.04	20.50	0.129	<b>0.14</b>	0.320	<b>0.36</b>	-0.1
21350	2560	50RB_Mid	Left	Touch	/	19.87	20.50	0.291	<b>0.34</b>	0.615	<b>0.71</b>	-0.06
21100	2535	50RB_Mid	Left	Touch	/	19.87	20.50	0.309	<b>0.36</b>	0.630	<b>0.73</b>	0.12
20850	2510	50RB_Mid	Left	Touch	/	19.89	20.50	0.319	<b>0.37</b>	0.635	<b>0.73</b>	0
21350	2560	50RB_Mid	Left	Tilt	/	19.87	20.50	0.253	<b>0.29</b>	0.650	<b>0.75</b>	-0.04
21100	2535	50RB_Mid	Left	Tilt	/	19.87	20.50	0.263	<b>0.30</b>	0.661	<b>0.76</b>	-0.04
20850	2510	50RB_Mid	Left	Tilt	/	19.89	20.50	0.268	<b>0.31</b>	0.666	<b>0.77</b>	-0.04
20850	2510	50RB_Mid	Right	Touch	/	19.89	20.50	0.054	<b>0.06</b>	0.115	<b>0.13</b>	-0.03
20850	2510	50RB_Mid	Right	Tilt	/	19.89	20.50	0.108	<b>0.12</b>	0.269	<b>0.31</b>	0.02
21350	2560	100RB	Left	Touch	/	19.87	20.50	0.247	<b>0.29</b>	0.543	<b>0.63</b>	0.08
21350	2560	100RB	Left	Tilt	/	19.87	20.50	0.234	<b>0.27</b>	0.503	<b>0.58</b>	0.13
21100	2535	1RB_Mid	Left	Touch	S2	19.93	20.50	0.331	<b>0.38</b>	0.745	<b>0.85</b>	0.08

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.3-14: SAR Values (LTE Band7 - Body)**

Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C											
21850	2510	1RB_Mid	Front	/	22.97	23.50	0.086	<b>0.10</b>	0.193	<b>0.22</b>	-0.01
21850	2510	1RB_Mid	Rear	Fig.38	22.97	23.50	0.260	<b>0.29</b>	0.606	<b>0.68</b>	-0.13
21850	2510	1RB_Mid	Right	/	22.97	23.50	0.117	<b>0.13</b>	0.264	<b>0.30</b>	-0.08
21850	2510	1RB_Mid	Top	/	22.97	23.50	0.145	<b>0.16</b>	0.374	<b>0.42</b>	-0.05
21850	2510	50RB_Mid	Front	/	21.84	22.50	0.081	<b>0.09</b>	0.165	<b>0.19</b>	0.10
21850	2510	50RB_Mid	Rear	/	21.84	22.50	0.147	<b>0.17</b>	0.359	<b>0.42</b>	0.00
21850	2510	50RB_Mid	Right	/	21.84	22.50	0.112	<b>0.13</b>	0.246	<b>0.29</b>	0.05
21850	2510	50RB_Mid	Top	/	21.84	22.50	0.132	<b>0.15</b>	0.346	<b>0.40</b>	-0.06
21850	2510	1RB_Mid	Rear	S2	22.97	23.50	0.241	<b>0.27</b>	0.583	<b>0.66</b>	0.06

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.3-15: SAR Values (LTE Band12 - Head)**

Frequency		Mode	Side	Test Position	Figure No./ Note	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5°C		Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz					Conduct ed Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)			
23095	707.5	1RB_Mid	Left	Touch	Fig.39	22.64	23.50	0.068	<b>0.08</b>	0.136	<b>0.17</b>	0.00
23095	707.5	1RB_Mid	Left	Tilt	/	22.64	23.50	0.054	<b>0.07</b>	0.130	<b>0.16</b>	-0.02
23095	707.5	1RB_Mid	Right	Touch	/	22.64	23.50	0.031	<b>0.04</b>	0.056	<b>0.07</b>	0.02
23095	707.5	1RB_Mid	Right	Tilt	/	22.64	23.50	0.031	<b>0.04</b>	0.061	<b>0.07</b>	-0.11
23095	707.5	25RB_Low	Left	Touch	/	21.58	22.50	0.059	<b>0.07</b>	0.112	<b>0.14</b>	0.00
23095	707.5	25RB_Low	Left	Tilt	/	21.58	22.50	0.055	<b>0.07</b>	0.122	<b>0.15</b>	0.05
23095	707.5	25RB_Low	Right	Touch	/	21.58	22.50	0.024	<b>0.03</b>	0.042	<b>0.05</b>	0.06
23095	707.5	25RB_Low	Right	Tilt	/	21.58	22.50	0.024	<b>0.03</b>	0.048	<b>0.06</b>	0.12
23095	707.5	1RB_Mid	Left	Touch	S2	22.64	23.50	0.061	<b>0.07</b>	0.131	<b>0.16</b>	0.05

Note1: The LTE mode is QPSK\_10MHz.

**Table 14.3-16: SAR Values (LTE Band12 - Body)**

Frequency		Mode	Test Position	Figure No./ Note	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5°C		Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz				Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)			
23095	707.5	1RB_Mid	Front	/	22.64	23.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
23095	707.5	1RB_Mid	Rear	Fig.40	22.64	23.50	0.027	<b>0.03</b>	0.044	<b>0.05</b>	0.11
23095	707.5	1RB_Mid	Right	/	22.64	23.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
23095	707.5	1RB_Mid	Top	/	22.64	23.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
23095	707.5	25RB_Low	Front	/	21.58	22.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
23095	707.5	25RB_Low	Rear	/	21.58	22.50	0.023	<b>0.03</b>	0.036	<b>0.04</b>	0.06
23095	707.5	25RB_Low	Right	/	21.58	22.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
23095	707.5	25RB_Low	Top	/	21.58	22.50	<0.01	<b>&lt;0.01</b>	<0.01	<b>&lt;0.01</b>	/
23095	707.5	1RB_Mid	Rear	S2	22.64	23.50	0.024	<b>0.03</b>	0.041	<b>0.05</b>	0.07

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_10MHz.

**Table 14.3-17: SAR Values (LTE Band41 - Head)**

Frequency		Ambient Temperature: 22.9°C					Liquid Temperature: 22.5°C					
Ch.	MHz	Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
41140	2645	1RB_Mid	Left	Touch	Fig.41	23.20	23.50	0.456	<b>0.49</b>	0.916	<b>0.98</b>	-0.04
40800	2611	1RB_Mid	Left	Touch	/	23.13	23.50	0.448	<b>0.49</b>	0.901	<b>0.98</b>	-0.11
40140	2545	1RB_Mid	Left	Touch	/	23.06	23.50	0.445	<b>0.49</b>	0.887	<b>0.98</b>	-0.08
40470	2578	1RB_Mid	Left	Touch	/	23.07	23.50	0.444	<b>0.49</b>	0.891	<b>0.98</b>	0.03
41140	2645	1RB_Mid	Left	Tilt	/	23.20	23.50	0.404	<b>0.43</b>	0.819	<b>0.88</b>	0.02
40800	2611	1RB_Mid	Left	Tilt	/	23.13	23.50	0.400	<b>0.44</b>	0.807	<b>0.88</b>	0.08
40140	2545	1RB_Mid	Left	Tilt	/	23.06	23.50	0.393	<b>0.43</b>	0.801	<b>0.89</b>	-0.11
40470	2578	1RB_Mid	Left	Tilt	/	23.07	23.50	0.393	<b>0.43</b>	0.798	<b>0.88</b>	0.10
41140	2645	1RB_Mid	Right	Touch	/	23.20	23.50	0.155	<b>0.17</b>	0.286	<b>0.31</b>	-0.11
41140	2645	1RB_Mid	Right	Tilt	/	23.20	23.50	0.202	<b>0.22</b>	0.413	<b>0.44</b>	0.05
41140	2645	50RB_Low	Left	Touch	/	22.14	22.50	0.361	<b>0.39</b>	0.721	<b>0.78</b>	0.10
40800	2611	50RB_Low	Left	Touch	/	21.92	22.50	0.351	<b>0.40</b>	0.696	<b>0.80</b>	-0.12
40140	2545	50RB_Mid	Left	Touch	/	21.91	22.50	0.319	<b>0.37</b>	0.643	<b>0.74</b>	0.12
40470	2578	50RB_High	Left	Touch	/	21.87	22.50	0.343	<b>0.40</b>	0.678	<b>0.78</b>	-0.06
41140	2645	50RB_Low	Left	Tilt	/	22.14	22.50	0.326	<b>0.35</b>	0.767	<b>0.83</b>	0.04
40800	2611	50RB_Low	Left	Tilt	/	21.92	22.50	0.322	<b>0.37</b>	0.756	<b>0.86</b>	-0.07
40140	2545	50RB_Mid	Left	Tilt	/	21.91	22.50	0.302	<b>0.35</b>	0.720	<b>0.82</b>	-0.01
40470	2578	50RB_High	Left	Tilt	/	21.87	22.50	0.324	<b>0.37</b>	0.761	<b>0.88</b>	-0.12
41140	2645	50RB_Low	Right	Touch	/	22.14	22.50	0.120	<b>0.13</b>	0.223	<b>0.24</b>	0.08
41140	2645	50RB_Low	Right	Tilt	/	22.14	22.50	0.158	<b>0.17</b>	0.321	<b>0.35</b>	0.09
41140	2645	100RB	Left	Touch	/	22.08	22.50	0.342	<b>0.38</b>	0.703	<b>0.77</b>	0.07
41140	2645	100RB	Left	Tilt	/	22.08	22.50	0.336	<b>0.37</b>	0.691	<b>0.76</b>	0.04
41140	2645	1RB_High	Left	Touch	ULCA	23.16	23.50	0.429	<b>0.46</b>	0.899	<b>0.97</b>	0.17
41140	2645	1RB_Mid	Left	Touch	S2	23.20	23.50	0.431	<b>0.46</b>	0.903	<b>0.97</b>	0.17

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.3-18: SAR Values (LTE Band41 - Body)**

Frequency		Ambient Temperature: 22.9°C					Liquid Temperature: 22.5°C				
Ch.	MHz	Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
41140	2645	1RB_Mid	Front	/	23.20	23.50	0.103	<b>0.11</b>	0.193	<b>0.21</b>	0.11
41140	2645	1RB_Mid	Rear	Fig.42	23.20	23.50	0.163	<b>0.17</b>	0.375	<b>0.40</b>	-0.09
41140	2645	1RB_Mid	Right	/	23.20	23.50	0.154	<b>0.17</b>	0.314	<b>0.34</b>	0.03
41140	2645	1RB_Mid	Top	/	23.20	23.50	0.107	<b>0.11</b>	0.262	<b>0.28</b>	0.09
41140	2645	50RB_Low	Front	/	23.20	22.50	0.080	<b>0.07</b>	0.151	<b>0.13</b>	-0.08



41140	2645	50RB_Low	Rear	/	22.14	22.50	0.129	<b>0.14</b>	0.295	<b>0.32</b>	0.02
41140	2645	50RB_Low	Right	/	22.14	22.50	0.118	<b>0.13</b>	0.239	<b>0.26</b>	-0.01
41140	2645	50RB_Low	Top	/	22.14	22.50	0.082	<b>0.09</b>	0.201	<b>0.22</b>	-0.10
41140	2645	1RB_High	Rear	ULCA	23.16	23.50	0.157	<b>0.17</b>	0.362	<b>0.39</b>	0.14
41140	2645	1RB_Mid	Rear	S2	23.20	23.50	0.157	<b>0.17</b>	0.366	<b>0.39</b>	0.14

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.3-19: SAR Values (LTE band66 - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
132752	1770	1RB_Mid	Left	Touch	Fig.43	22.50	23.50	0.257	<b>0.32</b>	0.486	<b>0.61</b>	0.07
132752	1770	1RB_Mid	Left	Tilt	/	22.50	23.50	0.210	<b>0.26</b>	0.396	<b>0.50</b>	-0.04
132752	1770	1RB_Mid	Right	Touch	/	22.50	23.50	0.151	<b>0.19</b>	0.251	<b>0.32</b>	-0.08
132752	1770	1RB_Mid	Right	Tilt	/	22.50	23.50	0.165	<b>0.21</b>	0.296	<b>0.37</b>	-0.11
132752	1770	50RB_Low	Left	Touch	/	21.42	22.50	0.199	<b>0.26</b>	0.375	<b>0.48</b>	-0.07
132752	1770	50RB_Low	Left	Tilt	/	21.42	22.50	0.159	<b>0.20</b>	0.296	<b>0.38</b>	0.12
132752	1770	50RB_Low	Right	Touch	/	21.42	22.50	0.118	<b>0.15</b>	0.197	<b>0.25</b>	0.04
132752	1770	50RB_Low	Right	Tilt	/	21.42	22.50	0.124	<b>0.16</b>	0.222	<b>0.28</b>	0.04
132752	1770	1RB_Mid	Left	Touch	S2	22.50	23.50	0.241	<b>0.30</b>	0.463	<b>0.58</b>	0.02

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.3-20: SAR Values (LTE band66 - Body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)	
Ch.	MHz											
132322	1745	1RB_Mid	Front	/	22.50	23.50	0.059	<b>0.07</b>	0.113	<b>0.14</b>	0.07	
132322	1745	1RB_Mid	Rear	Fig.44	22.50	23.50	0.127	<b>0.16</b>	0.251	<b>0.32</b>	0.02	
132322	1745	1RB_Mid	Right	/	22.50	23.50	0.038	<b>0.05</b>	0.071	<b>0.09</b>	0.12	
132322	1745	1RB_Mid	Top	/	22.50	23.50	0.073	<b>0.09</b>	0.146	<b>0.18</b>	0.05	
132322	1745	50RB_Low	Front	/	21.42	22.50	0.035	<b>0.04</b>	0.066	<b>0.08</b>	0.01	
132322	1745	50RB_Low	Rear	/	21.42	22.50	0.100	<b>0.13</b>	0.203	<b>0.26</b>	0.12	
132322	1745	50RB_Low	Right	/	21.42	22.50	0.023	<b>0.03</b>	0.050	<b>0.06</b>	-0.04	
132322	1745	50RB_Low	Top	/	21.42	22.50	0.056	<b>0.07</b>	0.113	<b>0.14</b>	0.01	
132322	1745	1RB_Mid	Rear	/	22.50	23.50	0.116	<b>0.15</b>	0.232	<b>0.29</b>	0.05	

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

### 14.4 SAR results for Standard procedure (Diversity antenna)

**Table 14.4-1: SAR Values (GSM 850 MHz Band - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Side	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
251	848.8	Left	Tilt	Fig.25	32.18	33.50	0.309	<b>0.42</b>	0.736	<b>1.00</b>	0.11

**Table 14.4-2: SAR Values (GSM 850 MHz Band - Body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode (number of timeslots)	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
190	836.6	GPRS (4)	Rear	Fig.26	28.71	29.50	0.146	<b>0.18</b>	0.244	<b>0.29</b>	-0.01

Note: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.4-3: SAR Values (GSM 1900 MHz Band - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Side	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
810	1909.8	Left	Tilt	Fig.27	29.52	30.50	0.170	<b>0.21</b>	0.362	<b>0.45</b>	-0.05

**Table 14.4-4: SAR Values (GSM 1900 MHz Band - Body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode (number of timeslots)	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
810	1909.8	GPRS (4)	Rear	Fig.28	26.06	27.00	0.257	<b>0.32</b>	0.551	<b>0.68</b>	0.11

Note: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.4-5: SAR Values (WCDMA 850 MHz Band - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Side	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
4233	846.6	Left	Touch	Fig.29	22.88	24.00	0.172	<b>0.22</b>	0.273	<b>0.35</b>	-0.05



**Table 14.4-6: SAR Values (WCDMA 850 MHz Band - Body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C				
Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
4182	836.4	Rear	Fig.30	22.91	24.00	0.081	<b>0.10</b>	0.131	<b>0.17</b>	0.10

Note: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.4-7: SAR Values (WCDMA 1900 MHz Band - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C					
Frequency		Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
9538	1907.6	Left	Touch	Fig.31	22.51	23.50	0.181	<b>0.23</b>	0.321	<b>0.40</b>	0.06

**Table 14.4-8: SAR Values (WCDMA 1900 MHz Band - Body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C				
Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
9538	1907.6	Rear	Fig.32	22.51	23.50	0.216	<b>0.27</b>	0.452	<b>0.57</b>	0.09

Note1: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.4-9: SAR Values (LTE Band2 - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
19100	1900	1RB_Mid	Left	Touch	Fig.33	22.99	23.50	0.267	<b>0.30</b>	0.514	<b>0.58</b>	0.07

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.4-10: SAR Values (LTE Band2 - Body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C					
Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
19100	1900	1RB_Mid	Rear	Fig.34	22.99	23.50	0.240	<b>0.27</b>	0.508	<b>0.57</b>	0.11

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.4-11: SAR Values (LTE Band5 - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
20600	844	1RB_Mid	Left	Touch	Fig.35	22.80	23.50	0.290	<b>0.34</b>	0.554	<b>0.65</b>	0.05

Note1: The LTE mode is QPSK\_10MHz.

**Table 14.4-12: SAR Values (LTE Band5 - Body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
20600	844	1RB_Mid	Rear	Fig.36	22.80	23.50	0.121	<b>0.14</b>	0.193	<b>0.23</b>	-0.08

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_10MHz.

**Table 14.4-13: SAR Values (LTE Band7 - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
21100	2535	1RB_Mid	Left	Touch	Fig.37	19.93	20.50	0.355	<b>0.40</b>	0.787	<b>0.90</b>	-0.1

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.4-14: SAR Values (LTE Band7 - Body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
21850	2510	1RB_Mid	Rear	Fig.38	22.97	23.50	0.260	<b>0.29</b>	0.606	<b>0.68</b>	-0.13

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.4-15: SAR Values (LTE Band12 - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
23095	707.5	1RB_Mid	Left	Touch	Fig.39	22.64	23.50	0.068	<b>0.08</b>	0.136	<b>0.17</b>	0.00

Note1: The LTE mode is QPSK\_10MHz.

**Table 14.4-16: SAR Values (LTE Band12 - Body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
23095	707.5	1RB_Mid	Rear	Fig.40	22.64	23.50	0.027	<b>0.03</b>	0.044	<b>0.05</b>	0.11

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_10MHz.

**Table 14.4-17: SAR Values (LTE Band41 - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
41140	2645	1RB_Mid	Left	Touch	Fig.41	23.20	23.50	0.456	<b>0.49</b>	0.916	<b>0.98</b>	-0.04

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.4-18: SAR Values (LTE Band41 - Body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
41140	2645	1RB_Mid	Rear	Fig.42	23.20	23.50	0.163	<b>0.17</b>	0.375	<b>0.40</b>	-0.09

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.4-19: SAR Values (LTE band66 - Head)**

Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)	
Ch.	MHz												
		Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
132752	1770	1RB_Mid	Left	Touch	Fig.43	22.50	23.50	0.257	<b>0.32</b>	0.486	<b>0.61</b>	0.07	

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.4-20: SAR Values (LTE band66 - Body)**

Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)		
Ch.	MHz												
		Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
132322	1745	1RB_Mid	Rear	Fig.44	22.50	23.50	0.127	<b>0.16</b>	0.251	<b>0.32</b>	0.02		

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

## 14.5 WLAN Evaluation for 2.4G

According to the KDB248227 D01, SAR is measured for 2.4GHz 802.11b DSSS using the initial test position procedure.

### Head Evaluation

**Table 14.5-1: SAR Values (WLAN - Head)– 802.11b (Fast SAR)**

Frequency		Side	Test Position	Figure No./ Note	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5°C				
MHz	Ch.				Conducte d Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)( W/kg)	Power Drift (dB)
2462	11	Left	Touch	/	17.77	18	0.093	<b>0.10</b>	0.175	<b>0.18</b>	0.05
2462	11	Left	Tilt	/	17.77	18	0.092	<b>0.10</b>	0.184	<b>0.19</b>	-0.06
2462	11	Right	Touch	/	17.77	18	0.291	<b>0.31</b>	0.600	<b>0.63</b>	-0.01
2462	11	Right	Tilt	/	17.77	18	0.242	<b>0.26</b>	0.552	<b>0.58</b>	-0.16
2462	11	Right	Tilt	S2	17.77	18	0.217	<b>0.23</b>	0.516	<b>0.54</b>	0.02

As shown above table, the initial test position for head is “Right Tilt”. So the head SAR of WLAN is presented as below:

**Table 14.5-2: SAR Values (WLAN - Head)– 802.11b (Full SAR)**

Frequency		Side	Test Position	Figure No./ Note	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5°C				
MHz	Ch.				Conducte d Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)( W/kg)	Power Drift (dB)
2462	11	Right	Touch	/	17.77	18	0.259	<b>0.27</b>	0.517	<b>0.55</b>	-0.01
2462	11	Right	Tilt	Fig.45	17.77	18	0.239	<b>0.25</b>	0.537	<b>0.57</b>	-0.16

Note1: When the reported SAR of the initial test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest estimated 1-g SAR conditions determined by area scans, on the highest maximum output power channel, until the reported SAR is  $\leq$  0.8 W/kg.

Note2: For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel until the reported SAR is  $\leq$  1.2 W/kg or all required channels are tested.

According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. The scaled reported SAR is presented as below.

**Table 14.5-3: SAR Values (WLAN - Head) – 802.11b (Scaled Reported SAR)**

Frequency		Side	Test Position	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5°C	
MHz	Ch.			Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
2462	11	Right	Tilt	100%	100%	<b>0.57</b>	<b>0.57</b>

SAR is not required for OFDM because the 802.11b adjusted SAR  $\leq$  1.2 W/kg.

**Body Evaluation**
**Table 14.5-4: SAR Values (WLAN - Body)– 802.11b (Fast SAR)**

Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5°C		Power Drift (dB)
MHz	Ch.					Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	
2462	11	Front	/	17.77	18	0.070	<b>0.07</b>	0.126	<b>0.13</b>	0.07
2462	11	Rear	/	17.77	18	0.112	<b>0.12</b>	0.222	<b>0.23</b>	0.02
2462	11	Left	/	17.77	18	0.079	<b>0.08</b>	0.184	<b>0.19</b>	0.16
2462	11	Top	/	17.77	18	0.041	<b>0.04</b>	0.078	<b>0.08</b>	0.01
2462	11	Rear	S2	17.77	18	0.076	<b>0.08</b>	0.171	<b>0.18</b>	0.06

As shown above table, the initial test position for body is “Rear”. So the body SAR of WLAN is presented as below:

**Table 14.5-5: SAR Values (WLAN - Body)– 802.11b (Full SAR)**

Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5°C		Power Drift (dB)
MHz	Ch.					Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	
2462	11	Rear	Fig.46	17.77	18	0.085	<b>0.09</b>	0.196	<b>0.21</b>	0.02

Note1: When the reported SAR of the initial test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest estimated 1-g SAR conditions determined by area scans, on the highest maximum output power channel, until the reported SAR is  $\leq$  0.8 W/kg.

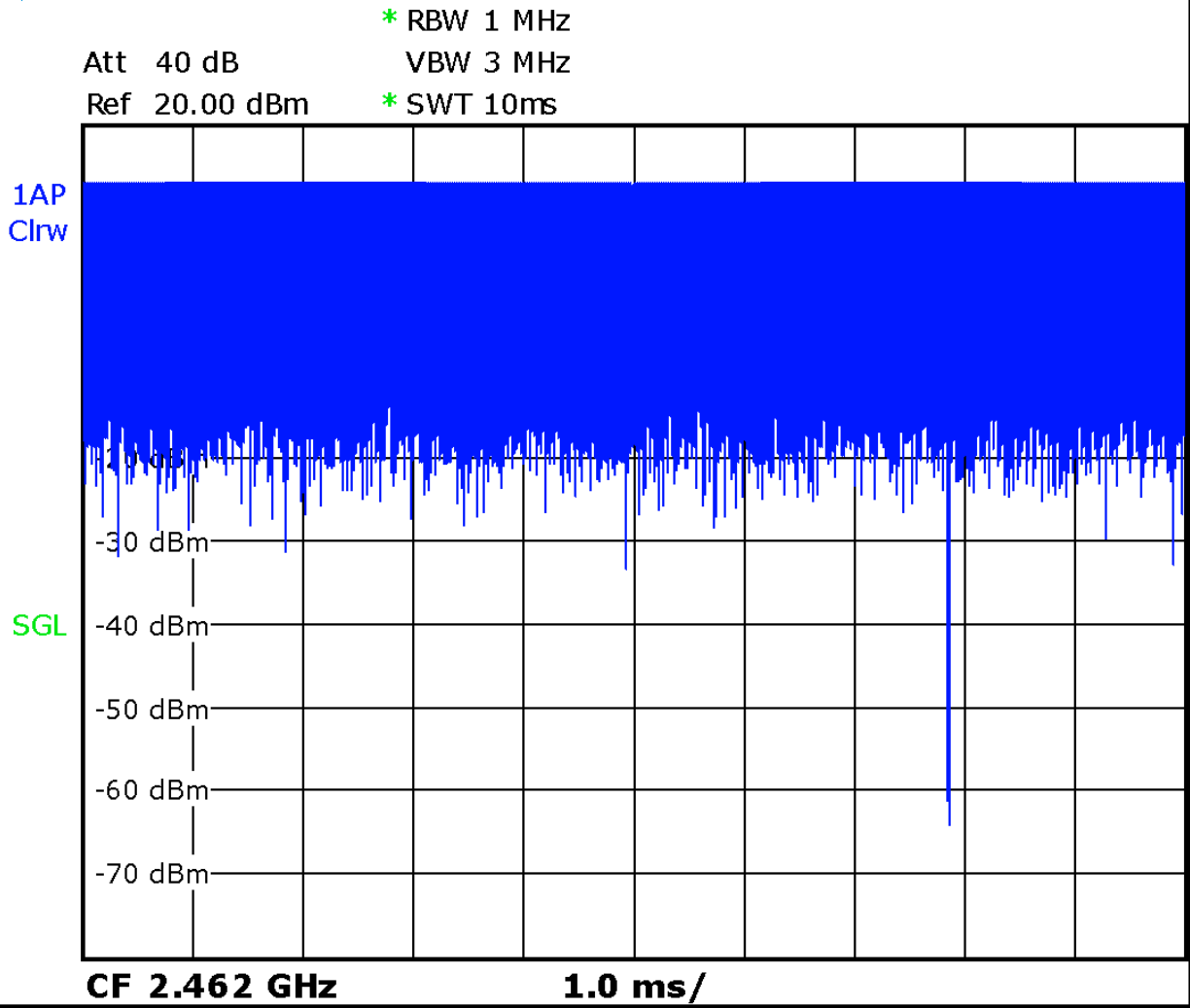
Note2: For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel until the reported SAR is  $\leq$  1.2 W/kg or all required channels are tested.

According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. The scaled reported SAR is presented as below.

**Table 14.5-6: SAR Values (WLAN - Body) – 802.11b (Scaled Reported SAR)**

Frequency		Test Position	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5°C	
MHz	Ch.		Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
2462	11	Rear	100%	100%	<b>0.21</b>	<b>0.21</b>

SAR is not required for OFDM because the 802.11b adjusted SAR  $\leq$  1.2 W/kg.



Picture 14.1 Duty factor plot for head

## 14.6 WLAN Evaluation For 5G

**Table 14.6-1: OFDM mode specified maximum output power of WLAN antenna**

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	X		X	X	X	X	X	
U-NII-2A	X		X	X	X	X	X	
U-NII-2C	X		X	X	X	X	X	
U-NII-3	X		X	X	X	X	X	
§ 15.247 (5.8 GHz)								

X: maximum(conducted) output power(mW), including tolerance, specified for production units

**Table 14.6-2: Maximum output power specified of WLAN antenna**

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	21		21	20	22	20	21	
U-NII-2A	21		21	20	22	20	21	
U-NII-2C	28		28	32	28	28	32	
U-NII-3	45		45	32	50	32	40	
§ 15.247 (5.8 GHz)								

- The maximum output power specified for production units is the same for all channels, modulations and data rates in each channel bandwidth configuration of the 802.11a/g/n/ac modes.
- The blue highlighted cells represent highest output configurations in each standalone or aggregated frequency band, with tune-up tolerance included.

**Table 14.6-3: Maximum output power measured of WLAN antenna, for the applicable OFDM configurations according to the default power measurement procedures for selection initial test configurations**

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 Lower power	36/40/44/48 Lower power	38/46 Lower power	36/40/44/48 19/19/20/19	38/46 Lower power	42 Lower power
U-NII-2A	52/56/60/64 Lower power	52/56/60/64 Lower power	54/62 Lower power	52/56/60/64 18/19/19/20	54/62 Lower power	58 Lower power
U-NII-2C	100/104/108/112 116/120/124/128 132/136/140/144 Lower power	100/104/108/112 2 116/132/136/14 0 Lower power	102/110/134 Lower power	100/104/108/112 116/132/136/140 Lower power	102/110/13 4 Lower power	106/122/ 138 24/25/28
U-NII-3	149/153/157/161/165 Lower power	149/153/157/16 1/165	151/159 Lower	149/153/157/16 1/165	151/159 Lower	155 Lower



		Lower power	power	40/39/39/39/39	power	power
<ul style="list-style-type: none"> <li>The <b>bold numbers</b> is the maximum output measured power (mW).</li> <li>Channels with measured maximum power within 0.25dB are considered to have the same measured output. Channels selected for initial test configuration are <b>highlighted in yellow</b>.</li> </ul>						

**Table 14.6-4: Reported SAR of initial test configuration for Head**

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48	36/40/44/48	38/46	36/40/44/48 UNII-2A exclusion applied	38/46	42
U-NII-2A	52/56/60/64	52/56/60/64	54/62	52/56/60/64 0.93	54/62	58
U-NII-2C	100/104/108/112/ 116/120/124/128/ 132/136/140/144	100/104/108/112 116/132/136/140	102/110/11 8/126/134	100/104/108/112 116/132/136/140	102/110/134	106/122/138 0.67
U-NII-3	149/153/157/161/ 165	149/153/157/161 /165	151/159	149/153/157/161 /165 0.79	151/159	155

Highest measured output power channel tested initially are in **yellow highlight**.

The tune up of UNII-1 is less than UNII-2A. SAR is measured for UNII-2A band first. Adjusted SAR of UNII-2A band is  $\leq 1.2$  W/kg. SAR is not required for UNII-1 band.

**Table 14.6-5: Reported SAR of initial test configuration for Head**

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48	36/40/44/48	38/46	36/40/44/48 UNII-2A exclusion applied	38/46	42
U-NII-2A	52/56/60/64	52/56/60/64	54/62	52/56/60/64 0.93/0.93	54/62	58
U-NII-2C	100/104/108/112/ 116/120/124/128/ 132/136/140/144	100/104/108/112 116/132/136/140	102/110/11 8/126/134	100/104/108/112 116/132/136/140	102/110/134	106/122/138 0.67
U-NII-3	149/153/157/161/ 165	149/153/157/161 /165	151/159	149/153/157/161 /165 0.79	151/159	155

The **green highlighted** channels are next highest measured output channel in the initial test configuration. Highest measured output power channel tested initially are in **yellow highlight**.

Initial test configuration SAR for U-NII-2A band is  $> 0.8$  W/kg, SAR is required for next highest output channel in initial test configuration. The next highest output channel SAR is  $\leq 1.2$  W/kg, SAR is not required for subsequent next

highest output channel. Similar circumstances apply to U-NII-2C band and 5.8 GHz band in §15.247.

**Table 14.6-6: Reported SAR of initial test configuration for Body**

802.11 mode	a	n		ac		
		20	40	20	40	80
U-NII-1	36/40/44/48	36/40/44/48	38/46	36/40/44/48 UNII-2A exclusion applied	38/46	42
U-NII-2A	52/56/60/64	52/56/60/64	54/62	52/56/60/64 0.47	54/62	58
U-NII-2C	100/104/108/112/ 116/120/124/128/ 132/136/140/144	100/104/108/112 116/132/136/140	102/110/118/ 126/134	100/104/108/112 116/132/136/140	102/110/134	106/122/138 0.34
U-NII-3	149/153/157/161/ 165	149/153/157/161 /165	151/159	149/153/157/161 /165 0.44	151/159	155

Highest measured output power channel tested initially are in **yellow highlight**.

The tune up of UNII-1 is less than UNII-2A. SAR is measured for UNII-2A band first. Adjusted SAR of UNII-2A band is ≤ 1.2 W/kg. SAR is not required for UNII-1 band.

**Table 14.6-7: SAR Values (WLAN - Normal Power Head)**

Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
64	5320	Left	Touch	/	12.91	13.5	0.060	<b>0.07</b>	0.214	<b>0.25</b>	0.08
64	5320	Left	Tilt	/	12.91	13.5	0.077	<b>0.09</b>	0.295	<b>0.34</b>	-0.04
64	5320	Right	Touch	/	12.91	13.5	0.109	<b>0.12</b>	0.442	<b>0.51</b>	-0.06
60	5300	Right	Tilt	/	12.8	13.5	0.182	<b>0.29</b>	0.788	<b>0.93</b>	0.01
64	5320	Right	Tilt	Fig.47	12.91	13.5	0.186	<b>0.21</b>	0.811	<b>0.93</b>	-0.13
138	5690	Left	Touch	/	14.42	15	0.100	<b>0.08</b>	0.276	<b>0.32</b>	-0.09
138	5690	Left	Tilt	/	14.42	15	0.128	<b>0.11</b>	0.342	<b>0.39</b>	-0.10
138	5690	Right	Touch	/	14.42	15	0.141	<b>0.12</b>	0.408	<b>0.47</b>	0.08
138	5690	Right	Tilt	/	14.42	15	0.141	<b>0.18</b>	0.586	<b>0.67</b>	0.13
149	5745	Left	Touch	/	16.07	17	0.067	<b>0.08</b>	0.241	<b>0.30</b>	0.07
149	5745	Left	Tilt	/	16.07	17	0.073	<b>0.09</b>	0.292	<b>0.36</b>	-0.12
149	5745	Right	Touch	/	16.07	17	0.077	<b>0.10</b>	0.314	<b>0.39</b>	0.01
149	5745	Right	Tilt	/	16.07	17	0.141	<b>0.17</b>	0.637	<b>0.79</b>	-0.07
64	5320	Right	Tilt	<b>S2</b>	12.91	13.5	0.164	<b>0.19</b>	0.766	<b>0.88</b>	0.02

**Table 14.6-8: SAR Values (WLAN - Body)**

Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.									
64	5320	Front	/	12.91	13.5	0.029	<b>0.03</b>	0.094	<b>0.11</b>	0.08
64	5320	Rear	/	12.91	13.5	0.100	<b>0.11</b>	0.344	<b>0.39</b>	-0.11
64	5320	Left	/	12.91	13.5	0.046	<b>0.05</b>	0.132	<b>0.15</b>	-0.13
64	5320	Top	Fig.48	12.91	13.5	0.142	<b>0.16</b>	0.406	<b>0.47</b>	0.13
138	5690	Front	/	14.42	15	0.033	<b>0.04</b>	0.103	<b>0.12</b>	0.06
138	5690	Rear	/	14.42	15	0.091	<b>0.10</b>	0.270	<b>0.31</b>	-0.04
138	5690	Left	/	14.42	15	0.033	<b>0.04</b>	0.084	<b>0.10</b>	0.07
138	5690	Top	/	14.42	15	0.104	<b>0.12</b>	0.296	<b>0.34</b>	0.03
149	5745	Front	/	16.07	17	0.039	<b>0.05</b>	0.127	<b>0.16</b>	-0.04
149	5745	Rear	/	16.07	17	0.100	<b>0.12</b>	0.314	<b>0.39</b>	-0.07
149	5745	Left	/	16.07	17	0.033	<b>0.04</b>	0.085	<b>0.11</b>	-0.07
149	5745	Top	/	19.93	20.50	0.032	<b>0.04</b>	0.063	<b>0.07</b>	-0.12
64	5320	Top	<b>S2</b>	12.91	13.5	0.124	<b>0.14</b>	0.367	<b>0.42</b>	0.01

Note1: The distance between the EUT and the phantom bottom is 10mm.

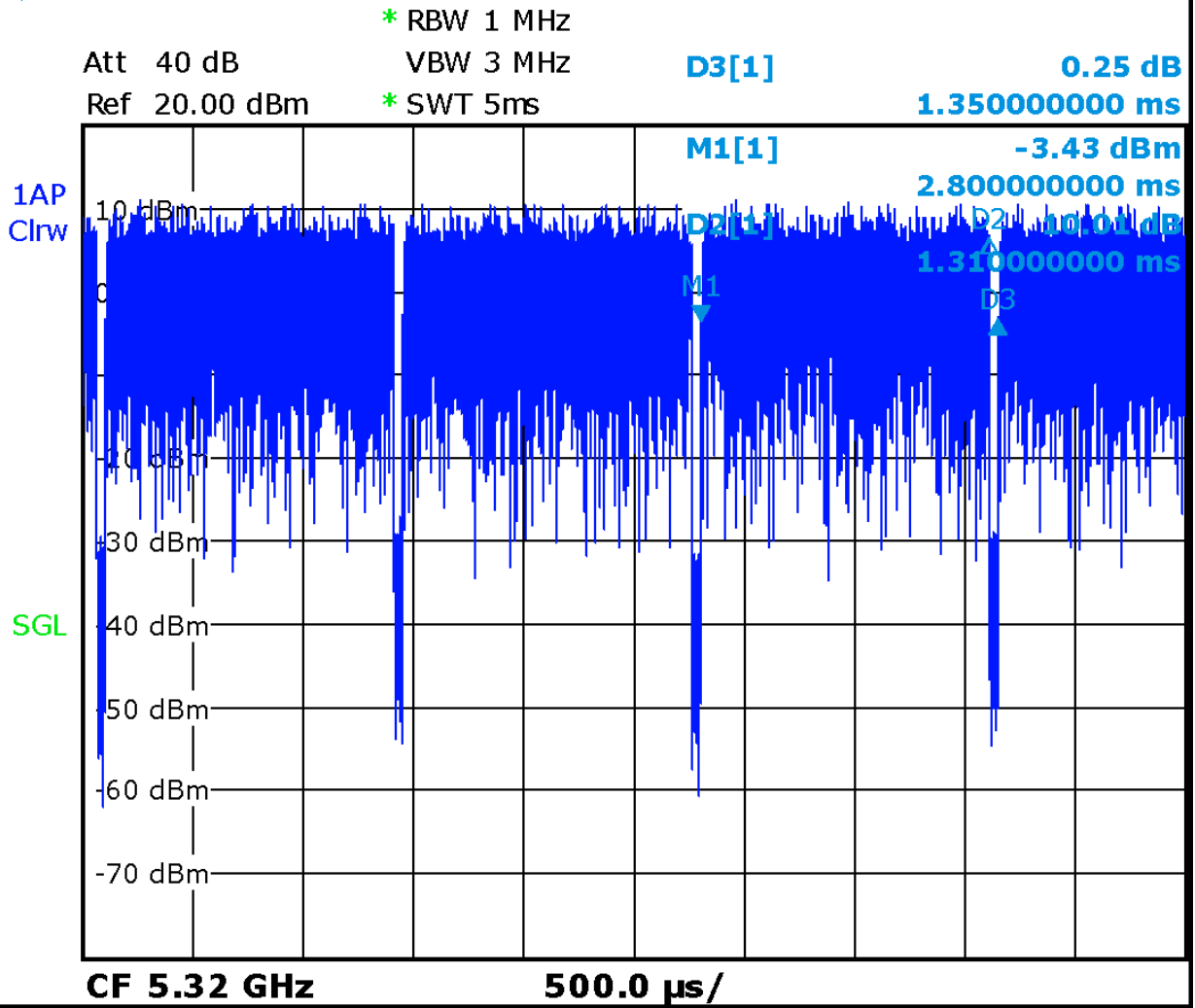
According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. The scaled reported SAR is presented as below.

**Table 14.6-9: SAR Values (WLAN - Head) - Scaled Reported SAR**

Frequency		Side	Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.						
64	5320	Right	Tilt	97.04%	100%	<b>0.93</b>	<b>0.96</b>

**Table 14.6-10: SAR Values (WLAN - Body) – Scaled Reported SAR**

Frequency		Test Position	D (mm)	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.						
64	5320	Top	10	97.04%	100%	<b>0.47</b>	<b>0.48</b>



Picture 14.3 The plot of duty factor f

### 14.7 SAR results for Fast BT

**Table 14.7-1: SAR Values (Bluetooth - Head)**

Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
78	2480	Left	Touch	/	11.01	12	< 0.01	<b>&lt; 0.01</b>	< 0.01	<b>&lt; 0.01</b>	/
78	2480	Left	Tilt	/	11.01	12	< 0.01	<b>&lt; 0.01</b>	< 0.01	<b>&lt; 0.01</b>	/
78	2480	Right	Touch	/	11.01	12	< 0.01	<b>&lt; 0.01</b>	< 0.01	<b>&lt; 0.01</b>	/
78	2480	Right	Tilt	/	11.01	12	< 0.01	<b>&lt; 0.01</b>	< 0.01	<b>&lt; 0.01</b>	/

**Table 14.7-2: SAR Values (Bluetooth - Body)**

Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch	MHz									
Ambient Temperature: 22.2 °C      Liquid Temperature: 22 °C										
78	2480	Front	/	11.01	12	< 0.01	<b>&lt; 0.01</b>	< 0.01	<b>&lt; 0.01</b>	/
78	2480	Rear	/	11.01	12	< 0.01	<b>&lt; 0.01</b>	< 0.01	<b>&lt; 0.01</b>	/
78	2480	Left	/	11.01	12	< 0.01	<b>&lt; 0.01</b>	< 0.01	<b>&lt; 0.01</b>	/
78	2480	Top	/	11.01	12	< 0.01	<b>&lt; 0.01</b>	< 0.01	<b>&lt; 0.01</b>	/

Note1: The distance between the EUT and the phantom bottom is 10mm

## 15 SAR Measurement Variability

SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium.

The following procedures are applied to determine if repeated measurements are required.

- 1) Repeated measurement is not required when the original highest measured SAR is  $< 0.80$  W/kg; steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is  $\geq 0.80$  W/kg, repeat that measurement once.
- 3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is  $> 1.20$  or when the original or repeated measurement is  $\geq 1.45$  W/kg ( $\sim 10\%$  from the 1-g SAR limit).
- 4) Perform a third repeated measurement only if the original, first or second repeated measurement is  $\geq 1.5$  W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is  $> 1.20$ .

**Table 15.1: SAR Measurement Variability for Body LTE B2 (1g)**

Frequency		Mode	Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz							
18700	1860	1RB_Mid	Bottom	10	1.03	0.991	1.04	/

**Table 15.2: SAR Measurement Variability for Body LTE B7 (1g)**

Frequency		Mode	Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz							
21100	2535	1RB_Mid	Rear	10	0.969	0.950	1.02	/

**Table 15.3: SAR Measurement Variability for Body LTE B66 (1g)**

Frequency		Mode	Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz							
132752	1770	50RB_Low	Bottom	10	1.07	0.997	1.07	/

**Table 15.4: SAR Measurement Variability for Head LTE B41 (1g)**

Frequency		Mode	Side	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz							
41140	2645	1RB_Mid	Left	Touch	0.916	0.897	1.02	/

**Table 15.5: SAR Measurement Variability for Head WIFI5G (1g)**

Frequency		Side	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
64	5320	Right	Tilt	0.811	0.792	1.02	/

## 16 Measurement Uncertainty

### 16.1 Measurement Uncertainty for Normal SAR Tests (300MHz~3GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
<b>Measurement system</b>										
1	Probe calibration	B	6.0	N	1	1	1	6.0	6.0	$\infty$
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	$\infty$
3	Boundary effect	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	$\infty$
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	$\infty$
5	Detection limit	B	1.0	N	1	1	1	0.6	0.6	$\infty$
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	$\infty$
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	$\infty$
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	$\infty$
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	$\infty$
10	RF ambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	$\infty$
11	Probe positioned mech. restrictions	B	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	$\infty$
12	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	$\infty$
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	$\infty$
<b>Test sample related</b>										
14	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
15	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
16	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	$\infty$
<b>Phantom and set-up</b>										
17	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	$\infty$
18	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	$\infty$
19	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
20	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	$\infty$
21	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521



Combined standard uncertainty	$u_c = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$							9.55	9.43	257
Expanded uncertainty (confidence interval of 95 %)	$u_e = 2u_c$							19.1	18.9	

### 16.2 Measurement Uncertainty for Normal SAR Tests (3~6GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
<b>Measurement system</b>										
1	Probe calibration	B	6.55	N	1	1	1	6.55	6.55	$\infty$
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	$\infty$
3	Boundary effect	B	2.0	R	$\sqrt{3}$	1	1	1.2	1.2	$\infty$
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	$\infty$
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	$\infty$
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	$\infty$
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	$\infty$
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	$\infty$
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	$\infty$
10	RF ambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	$\infty$
11	Probe positioned mech. restrictions	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	$\infty$
12	Probe positioning with respect to phantom shell	B	6.7	R	$\sqrt{3}$	1	1	3.9	3.9	$\infty$
13	Post-processing	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	$\infty$
<b>Test sample related</b>										
14	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
15	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
16	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	$\infty$
<b>Phantom and set-up</b>										
17	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	$\infty$
18	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	$\infty$
19	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
20	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	$\infty$

21	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u_c = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$						10.7	10.6	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						21.4	21.1	

### 16.3 Measurement Uncertainty for Fast SAR Tests (300MHz~3GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
<b>Measurement system</b>										
1	Probe calibration	B	6.0	N	1	1	1	6.0	6.0	$\infty$
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	$\infty$
3	Boundary effect	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	$\infty$
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	$\infty$
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	$\infty$
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	$\infty$
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	$\infty$
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	$\infty$
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	$\infty$
10	RFambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	$\infty$
11	Probe positioned mech. Restrictions	B	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	$\infty$
12	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	$\infty$
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	$\infty$
14	Fast SAR z-Approximation	B	7.0	R	$\sqrt{3}$	1	1	4.0	4.0	$\infty$
<b>Test sample related</b>										
15	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
16	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
17	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	$\infty$
<b>Phantom and set-up</b>										
18	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	$\infty$
19	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	$\infty$

20	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
21	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	$\infty$
22	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u_c' = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						10.4	10.3	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						20.8	20.6	

### 16.4 Measurement Uncertainty for Fast SAR Tests (3~6GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
<b>Measurement system</b>										
1	Probe calibration	B	6.55	N	1	1	1	6.55	6.55	$\infty$
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	$\infty$
3	Boundary effect	B	2.0	R	$\sqrt{3}$	1	1	1.2	1.2	$\infty$
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	$\infty$
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	$\infty$
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	$\infty$
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	$\infty$
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	$\infty$
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	$\infty$
10	RFambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	$\infty$
11	Probe positioned mech. Restrictions	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	$\infty$
12	Probe positioning with respect to phantom shell	B	6.7	R	$\sqrt{3}$	1	1	3.9	3.9	$\infty$
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	$\infty$
14	Fast SAR z-Approximation	B	14.0	R	$\sqrt{3}$	1	1	8.1	8.1	$\infty$
<b>Test sample related</b>										
15	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
16	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5

17	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	$\infty$
<b>Phantom and set-up</b>										
18	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	$\infty$
19	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	$\infty$
20	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
21	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	$\infty$
22	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u_c = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						13.5	13.4	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						27.0	26.8	

## 17 MAIN TEST INSTRUMENTS

**Table 17.1: List of Main Instruments**

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	N5239A	MY46110673	January 24, 2020	One year
02	Power meter	NRP2	101919	May 12, 2020	One year
03	Power sensor	NRP-Z91	101547		
04	Signal Generator	E4438C	MY49070393	January 4, 2020	One Year
05	Amplifier	60S1G4	0331848	No Calibration Requested	
06	BTS	CMW500	129942	February 10, 2020	One year
07	E-field Probe	SPEAG EX3DV4	3617	Jan 30, 2020	One year
08	DAE	SPEAG DAE4	777	January 8, 2020	One year
09	Dipole Validation Kit	SPEAG D750V3	1017	July 24,2020	One year
10	Dipole Validation Kit	SPEAG D835V2	4d069	July 24,,2020	One year
11	Dipole Validation Kit	SPEAG D1750V2	1003	July 24, 2020	One year
12	Dipole Validation Kit	SPEAG D1900V2	5d101	July 28,2020	One year
13	Dipole Validation Kit	SPEAG D2450V2	853	July 21,2020	One year
14	Dipole Validation Kit	SPEAG D2600V2	1012	July 21,2020	One year
15	Dipole Validation Kit	SPEAG D5GHzV2	1060	July 27,2020	One year

\*\*\*END OF REPORT BODY\*\*\*

## ANNEX A Graph Results

### GSM850\_CH128 Left Cheek

Date: 11/14/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used:  $f = 824.2$ ;  $\sigma = 0.88$  mho/m;  $\epsilon_r = 41.28$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: GSM850 824.2 Duty Cycle: 1: 8.3

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.152 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.275 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.165 W/kg

**SAR(1 g) = 0.123 W/kg; SAR(10 g) = 0.094 W/kg**

Maximum value of SAR (measured) = 0.15 W/kg

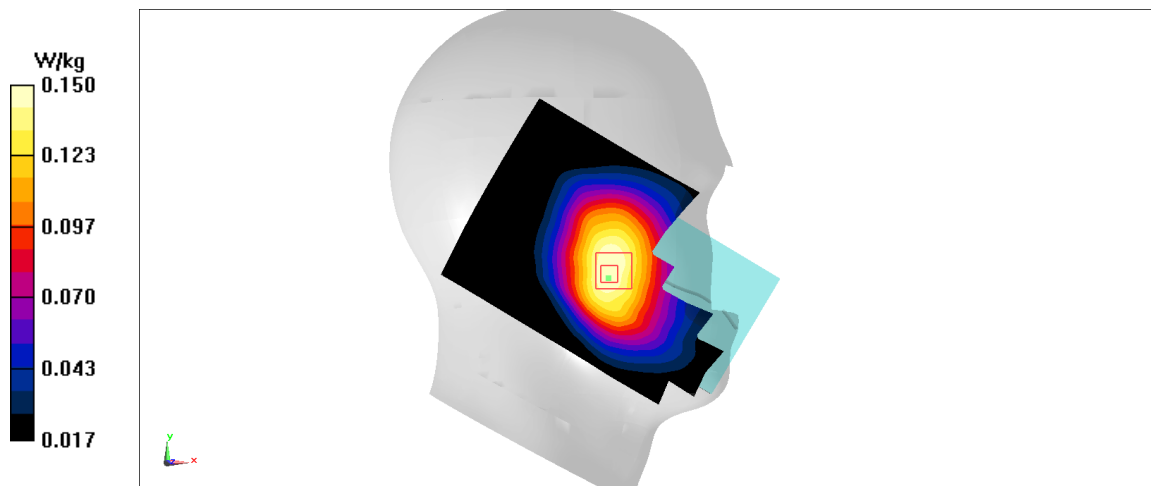


Fig A.1

**GSM850\_CH128 Rear**

Date: 11/14/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used:  $f = 824.2$ ;  $\sigma = 0.88$  mho/m;  $\epsilon_r = 41.28$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: GSM850 824.2 Duty Cycle: 1: 2

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.576 W/kg

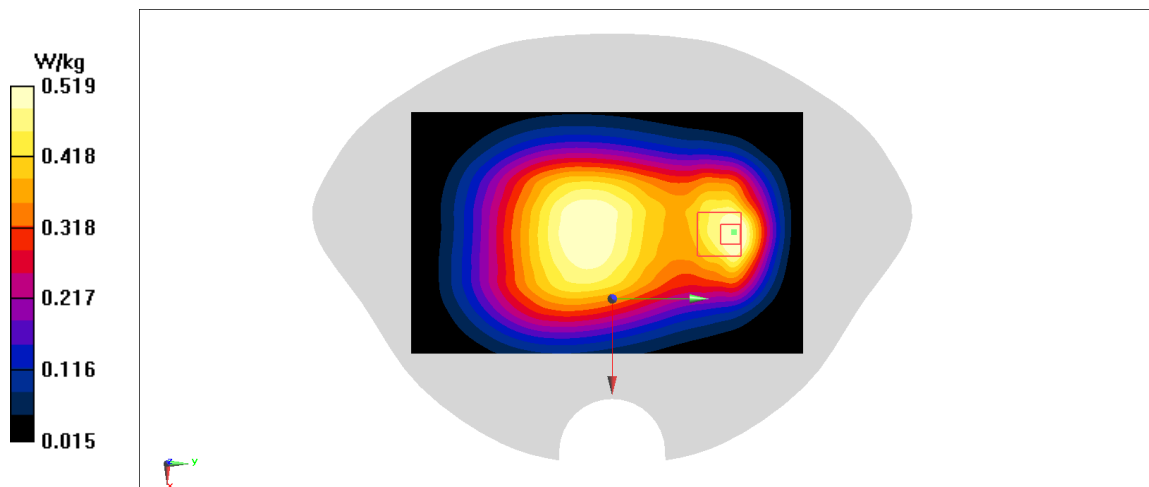
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 24.14 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.64 W/kg

**SAR(1 g) = 0.366 W/kg; SAR(10 g) = 0.23 W/kg**

Maximum value of SAR (measured) = 0.519 W/kg

**Fig A.2**

**PCS1900\_CH512 Right Cheek**

Date: 11/18/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used:  $f = 1850.2$ ;  $\sigma = 1.366$  mho/m;  $\epsilon_r = 39.83$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: PCS1900 1850.2 Duty Cycle: 1: 8.3

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.133 W/kg

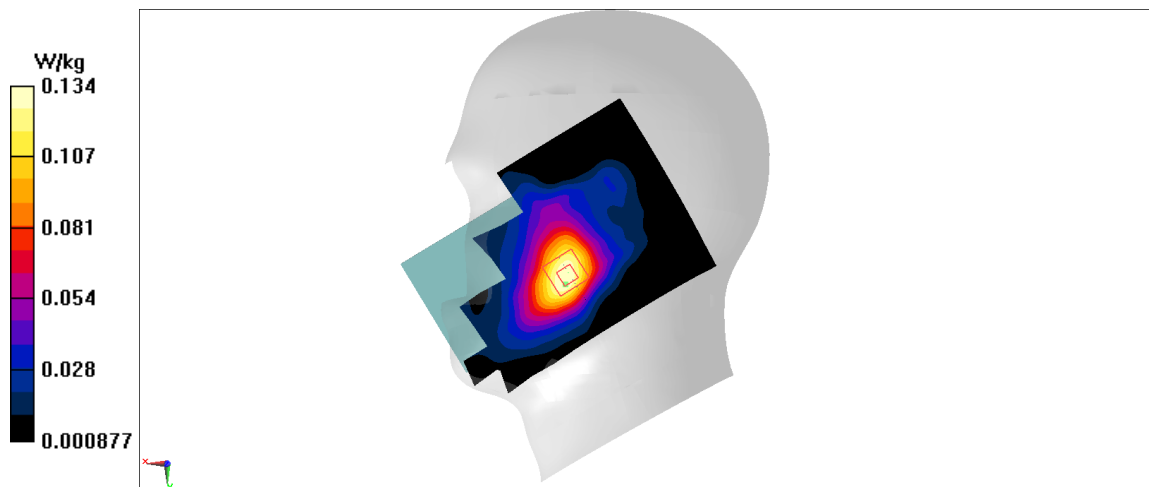
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.618 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.155 W/kg

**SAR(1 g) = 0.099 W/kg; SAR(10 g) = 0.062 W/kg**

Maximum value of SAR (measured) = 0.134 W/kg



**Fig A.3**

**PCS1900\_CH512 Bottom**

Date: 11/18/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used:  $f = 1850.2$ ;  $\sigma = 1.366$  mho/m;  $\epsilon_r = 39.83$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: PCS1900 1850.2 Duty Cycle: 1: 2

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.896 W/kg

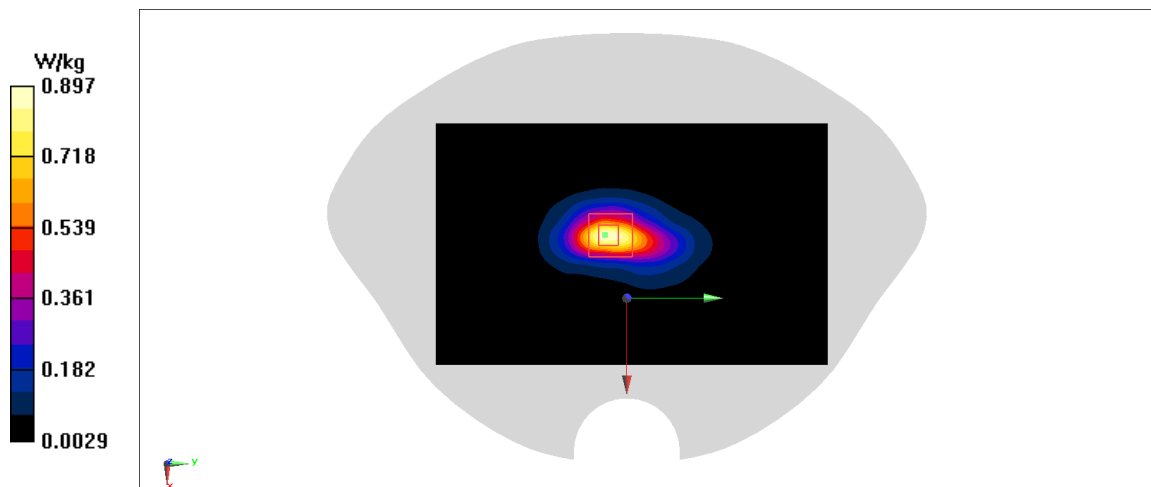
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.77 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 1.09 W/kg

**SAR(1 g) = 0.588 W/kg; SAR(10 g) = 0.3 W/kg**

Maximum value of SAR (measured) = 0.897 W/kg

**Fig A.4**



**PCS1900\_CH512 Rear**

Date: 11/18/2020

Electronics: DAE4 Sn777

Medium: Head 1900 MHz

Medium parameters used:  $f = 1850.2$ ;  $\sigma = 1.366$  mho/m;  $\epsilon_r = 39.83$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: PCS1900 1850.2 Duty Cycle: 1: 2

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.787 W/kg

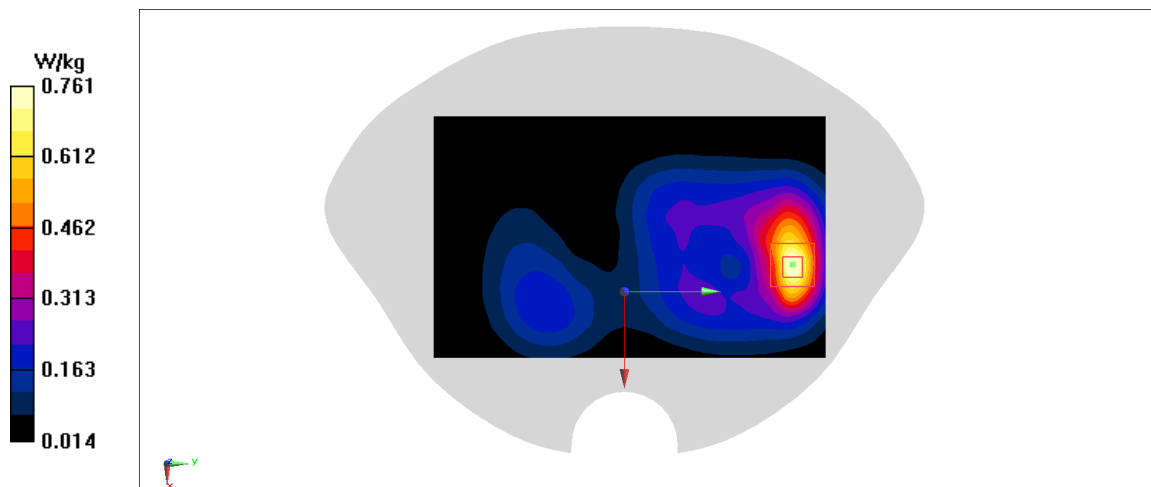
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.419 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.907 W/kg

**SAR(1 g) = 0.535 W/kg; SAR(10 g) = 0.301 W/kg**

Maximum value of SAR (measured) = 0.761 W/kg

**Fig A.5**

**WCDMA1900-BII\_CH9938 Left Tilt**

Date: 11/19/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used:  $f = 1907.6$ ;  $\sigma = 1.395$  mho/m;  $\epsilon_r = 39.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA1900-BII 1907.6 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.171 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.149 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.176 W/kg

**SAR(1 g) = 0.112 W/kg; SAR(10 g) = 0.069 W/kg**

Maximum value of SAR (measured) = 0.151 W/kg

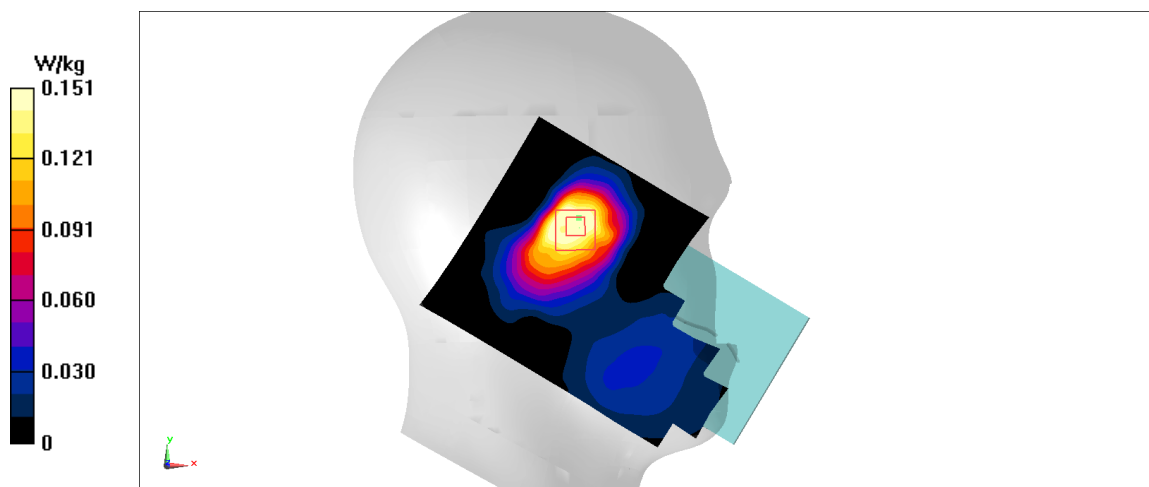


Fig A.6

**WCDMA1900-BII\_CH9662 Bottom**

Date: 11/19/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used:  $f = 1852.4$ ;  $\sigma = 1.341$  mho/m;  $\epsilon_r = 39.67$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA1900-BII 1852.4 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.18 W/kg

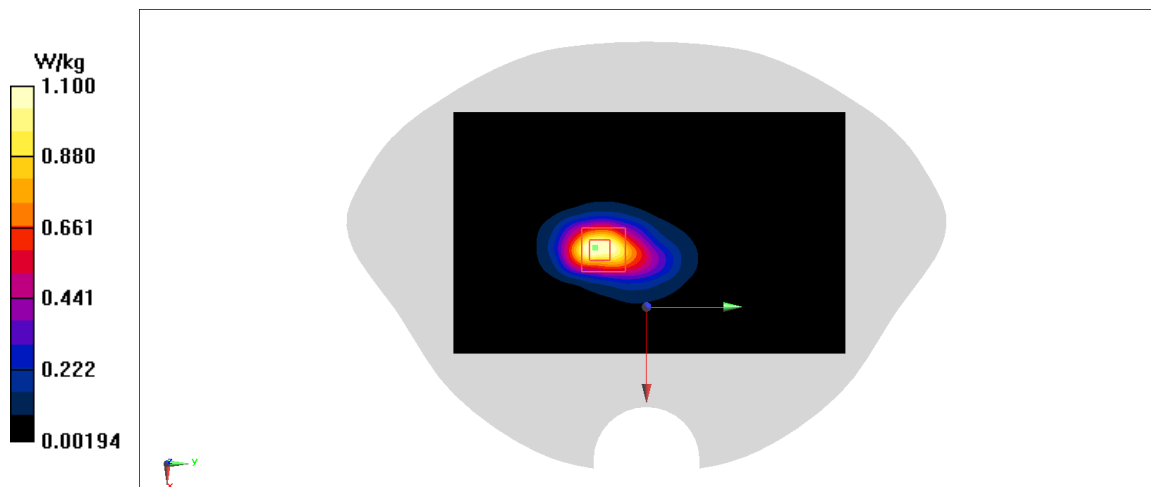
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.8 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 1.39 W/kg

**SAR(1 g) = 0.732 W/kg; SAR(10 g) = 0.37 W/kg**

Maximum value of SAR (measured) = 1.1 W/kg



**Fig A.7**

**WCDMA1900-BII\_CH9662 Rear**

Date: 11/19/2020

Electronics: DAE4 Sn777

Medium: Head 1900 MHz

Medium parameters used:  $f = 1852.4$ ;  $\sigma = 1.341$  mho/m;  $\epsilon_r = 39.67$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA1900-BII 1852.4 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

**Area Scan (81x131x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.780 W/kg

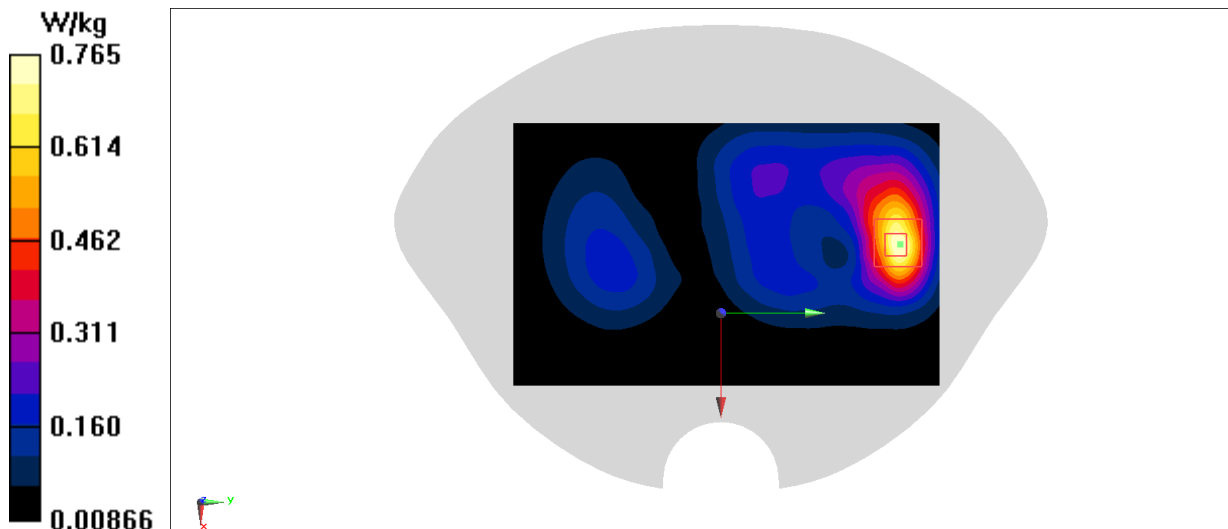
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.237 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.962 W/kg

SAR(1 g) = 0.552 W/kg; SAR(10 g) = 0.301 W/kg

Maximum value of SAR (measured) = 0.765 W/kg

**Fig A.8**

**WCDMA850-BV\_CH4182 Left Cheek**

Date: 11/15/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used:  $f = 836.4$ ;  $\sigma = 0.899$  mho/m;  $\epsilon_r = 40.92$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA850-BV 836.4 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.135 W/kg

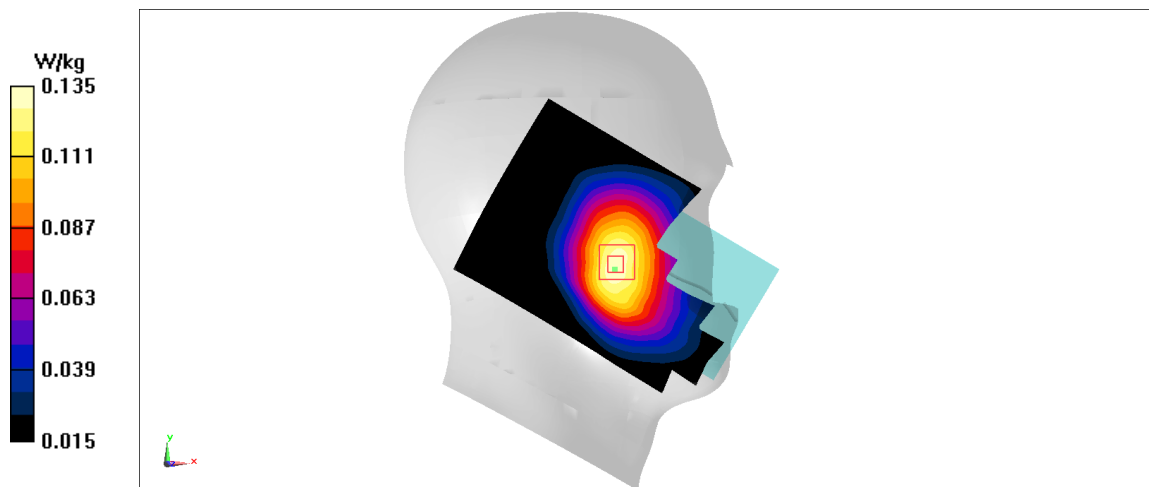
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.027 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.149 W/kg

**SAR(1 g) = 0.112 W/kg; SAR(10 g) = 0.086 W/kg**

Maximum value of SAR (measured) = 0.135 W/kg

**Fig A.9**

**WCDMA850-BV\_CH4132 Rear**

Date: 11/15/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used:  $f = 826.4$ ;  $\sigma = 0.889$  mho/m;  $\epsilon_r = 40.93$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA850-BV 826.4 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.237 W/kg

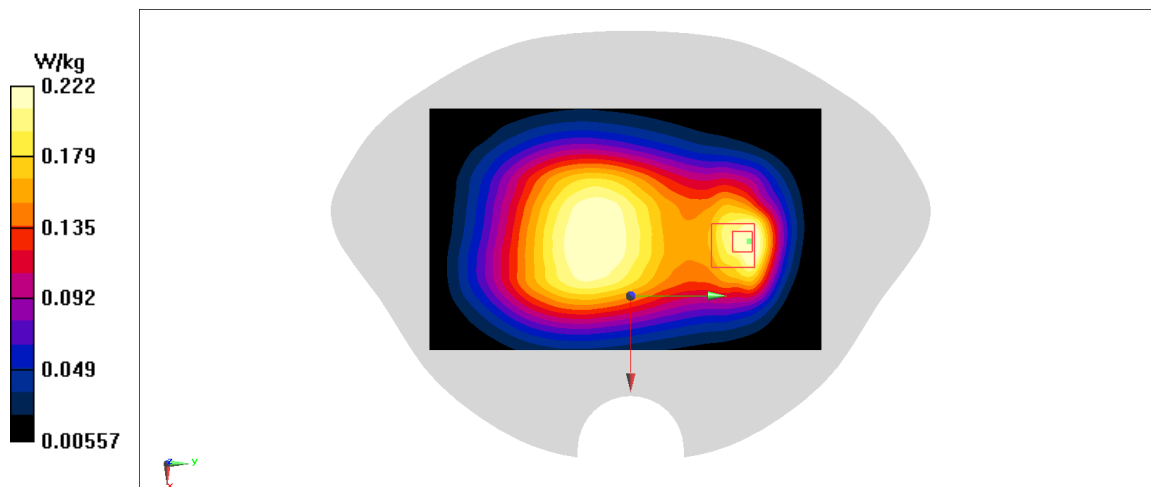
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.46 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.266 W/kg

**SAR(1 g) = 0.154 W/kg; SAR(10 g) = 0.098 W/kg**

Maximum value of SAR (measured) = 0.222 W/kg



**Fig A.10**

**LTE1900-FDD2\_CH19100 Right Cheek**

Date: 11/20/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.385$  mho/m;  $\epsilon_r = 39.78$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE1900-FDD2 1900 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.211 W/kg

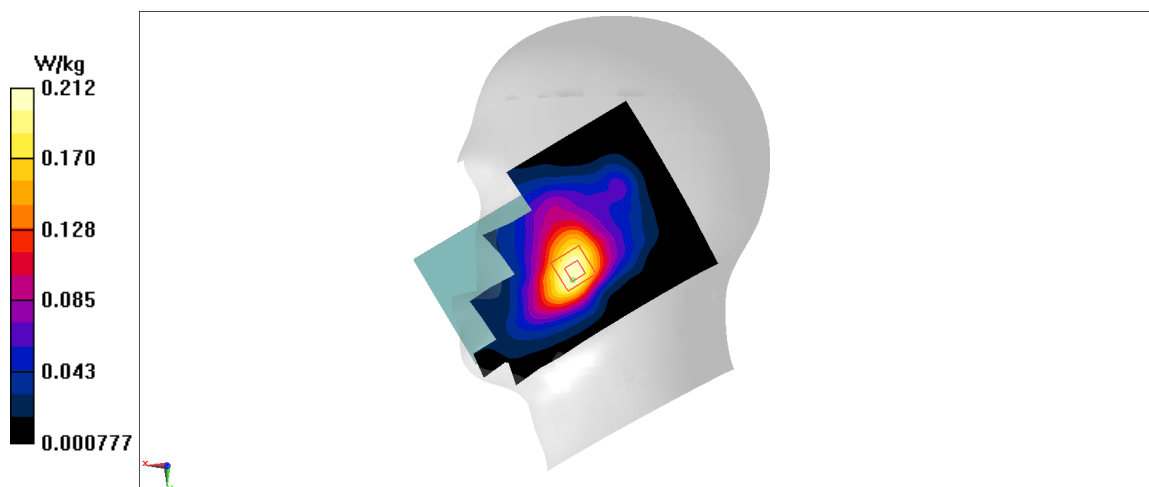
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.807 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.247 W/kg

**SAR(1 g) = 0.158 W/kg; SAR(10 g) = 0.099 W/kg**

Maximum value of SAR (measured) = 0.212 W/kg



**Fig A.11**

**LTE1900-FDD2\_CH18700 Bottom**

Date: 11/20/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used:  $f = 1860$  MHz;  $\sigma = 1.347$  mho/m;  $\epsilon_r = 39.83$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE1900-FDD2 1860 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.63 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 21.76 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 1.88 W/kg

**SAR(1 g) = 1.03 W/kg; SAR(10 g) = 0.532 W/kg**

Maximum value of SAR (measured) = 1.55 W/kg

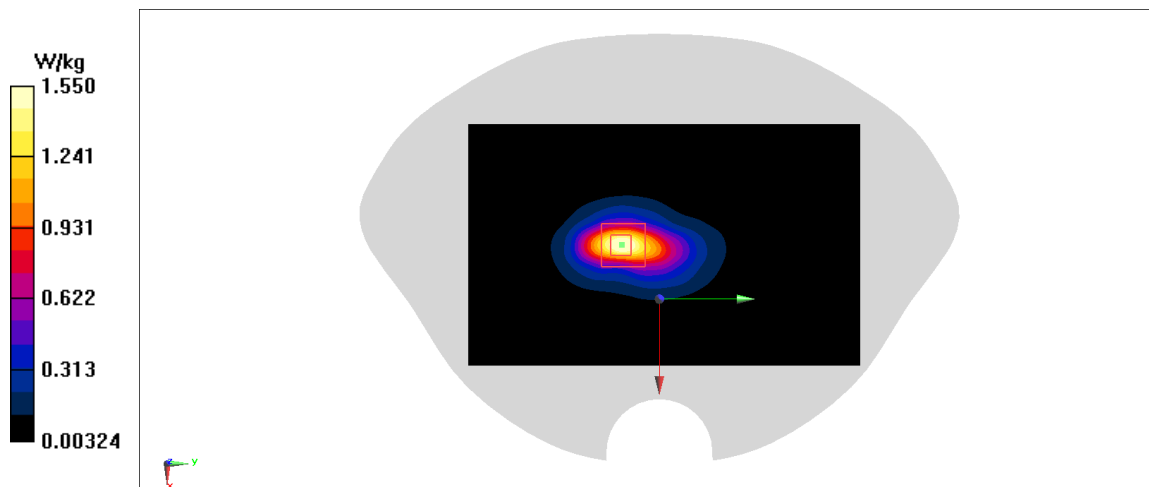


Fig A.12



**LTE1900-FDD2\_CH18900 Rear**

Date: 11/20/2020

Electronics: DAE4 Sn777

Medium: Head 1900 MHz

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.366$  mho/m;  $\epsilon_r = 39.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE1900-FDD2 1880 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.43 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.99 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.519 W/kg

**SAR(1 g) = 0.301 W/kg; SAR(10 g) = 0.167 W/kg**

Maximum value of SAR (measured) = 0.432 W/kg

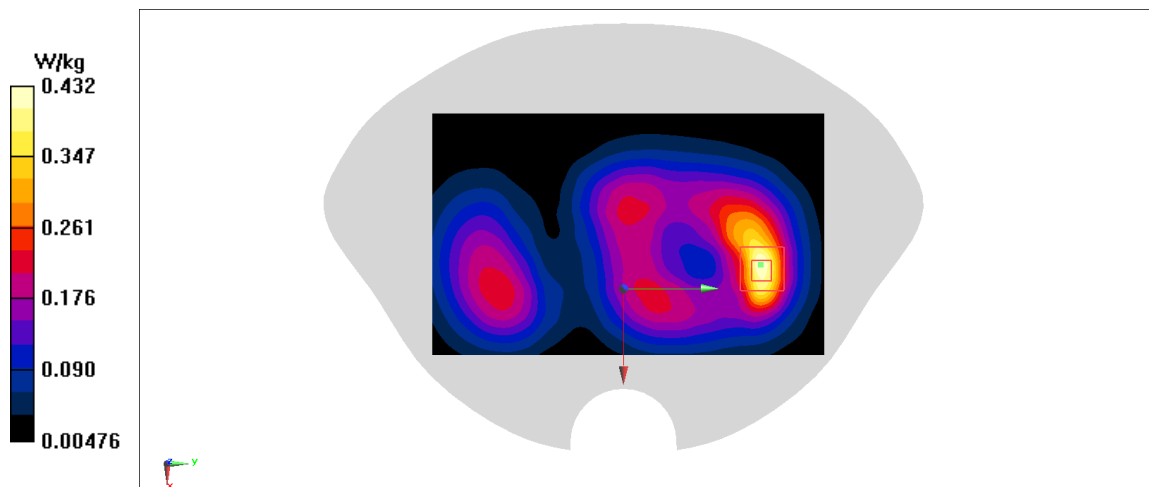


Fig A.13

**LTE850-FDD5\_CH20600 Left Cheek**

Date: 11/16/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used:  $f = 844 \text{ MHz}$ ;  $\sigma = 0.927 \text{ mho/m}$ ;  $\epsilon_r = 41.48$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE850-FDD5 844 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

**Area Scan (71x121x1):** Interpolated grid:  $dx=1.000 \text{ mm}$ ,  $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.142 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 2.372 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.158 W/kg

**SAR(1 g) = 0.119 W/kg; SAR(10 g) = 0.091 W/kg**

Maximum value of SAR (measured) = 0.143 W/kg

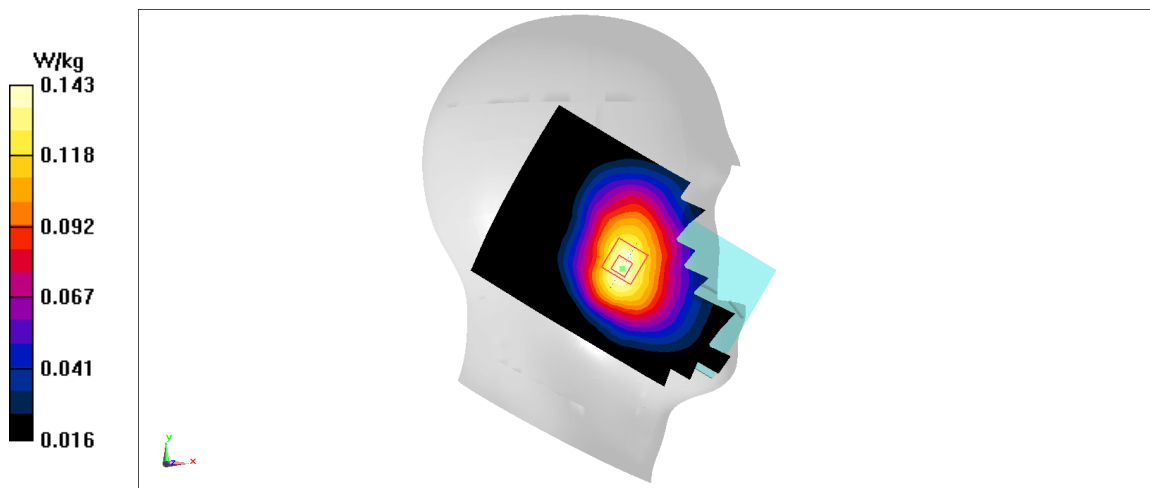


Fig A.14

**LTE850-FDD5\_CH20600 Rear**

Date: 11/16/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used:  $f = 844 \text{ MHz}$ ;  $\sigma = 0.927 \text{ mho/m}$ ;  $\epsilon_r = 41.48$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.5^\circ\text{C}$ , Liquid Temperature:  $22.3^\circ\text{C}$

Communication System: LTE850-FDD5 844 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

**Area Scan (71x121x1):** Interpolated grid:  $dx=1.000 \text{ mm}$ ,  $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.315 \text{ W/kg}$

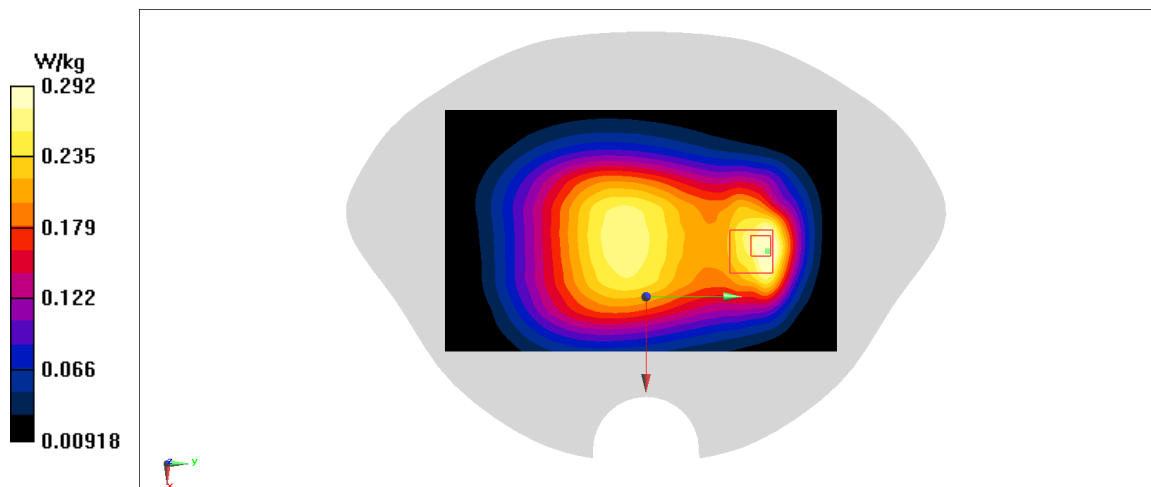
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $17.64 \text{ V/m}$ ; Power Drift =  $0.12 \text{ dB}$

Peak SAR (extrapolated) =  $0.354 \text{ W/kg}$

**SAR(1 g) =  $0.203 \text{ W/kg}$ ; SAR(10 g) =  $0.128 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.292 \text{ W/kg}$



**Fig A.15**

**LTE2500-FDD7\_CH20850 Right Cheek**

Date: 11/22/2020

Electronics: DAE4 Sn777

Medium: head 2600 MHz

Medium parameters used:  $f = 2510$  MHz;  $\sigma = 1.888$  mho/m;  $\epsilon_r = 39.71$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE2500-FDD7 2510 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(7.52,7.52,7.52)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.107 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.1 W/kg

**SAR(1 g) = 0.049 W/kg; SAR(10 g) = 0.025 W/kg**

Maximum value of SAR (measured) = 0.0787 W/kg

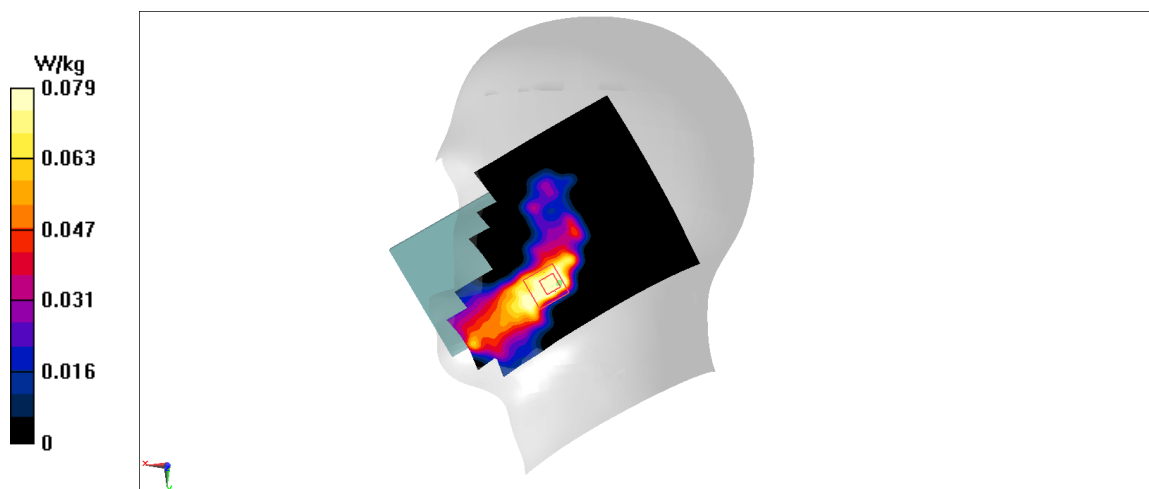


Fig A.16

**LTE2500-FDD7\_CH21100 Rear**

Date: 11/22/2020

Electronics: DAE4 Sn777

Medium: head 2600 MHz

Medium parameters used:  $f = 2535$  MHz;  $\sigma = 1.912$  mho/m;  $\epsilon_r = 39.68$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE2500-FDD7 2535 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(7.52,7.52,7.52)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.73 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.471 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 2.09 W/kg

**SAR(1 g) = 0.969 W/kg; SAR(10 g) = 0.422 W/kg**

Maximum value of SAR (measured) = 1.62 W/kg

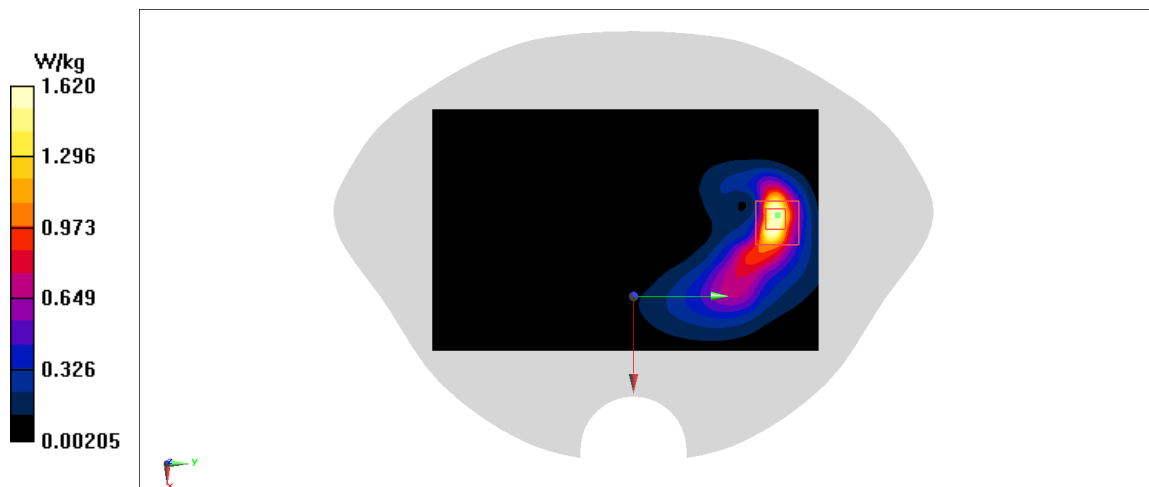


Fig A.17

**LTE700-FDD12\_CH23095 Right Cheek**

Date: 11/13/2020

Electronics: DAE4 Sn777

Medium: head 750 MHz

Medium parameters used:  $f = 707.5$  MHz;  $\sigma = 0.868$  mho/m;  $\epsilon_r = 41.98$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE700-FDD12 707.5 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(10.07,10.07,10.07)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.109 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.07 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.12 W/kg

**SAR(1 g) = 0.094 W/kg; SAR(10 g) = 0.074 W/kg**

Maximum value of SAR (measured) = 0.111 W/kg

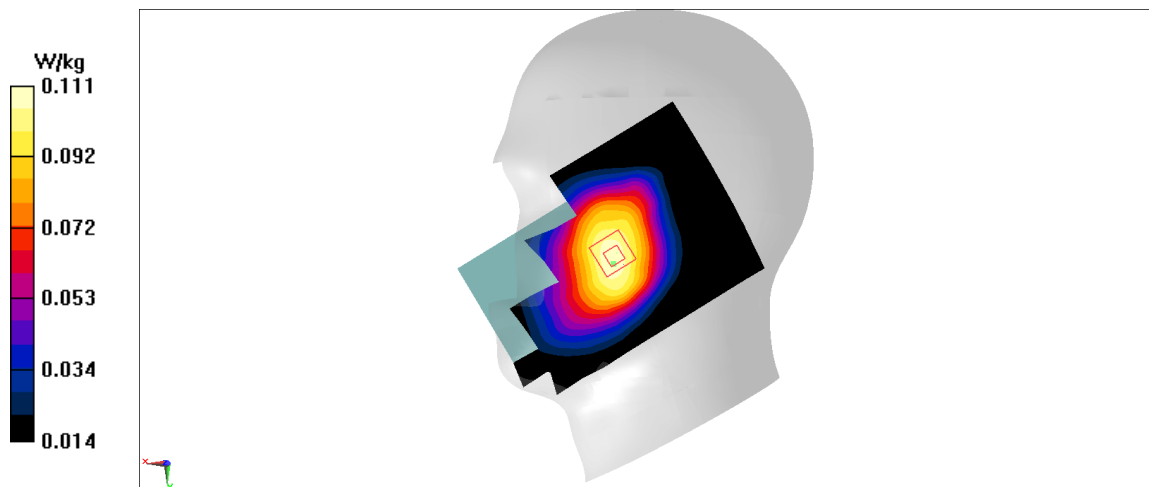


Fig A.18

**LTE700-FDD12\_CH23095 Rear**

Date: 11/13/2020

Electronics: DAE4 Sn777

Medium: head 750 MHz

Medium parameters used:  $f = 707.5$  MHz;  $\sigma = 0.868$  mho/m;  $\epsilon_r = 41.98$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE700-FDD12 707.5 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(10.07,10.07,10.07)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.284 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 18.71 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.316 W/kg

**SAR(1 g) = 0.233 W/kg; SAR(10 g) = 0.179 W/kg**

Maximum value of SAR (measured) = 0.285 W/kg

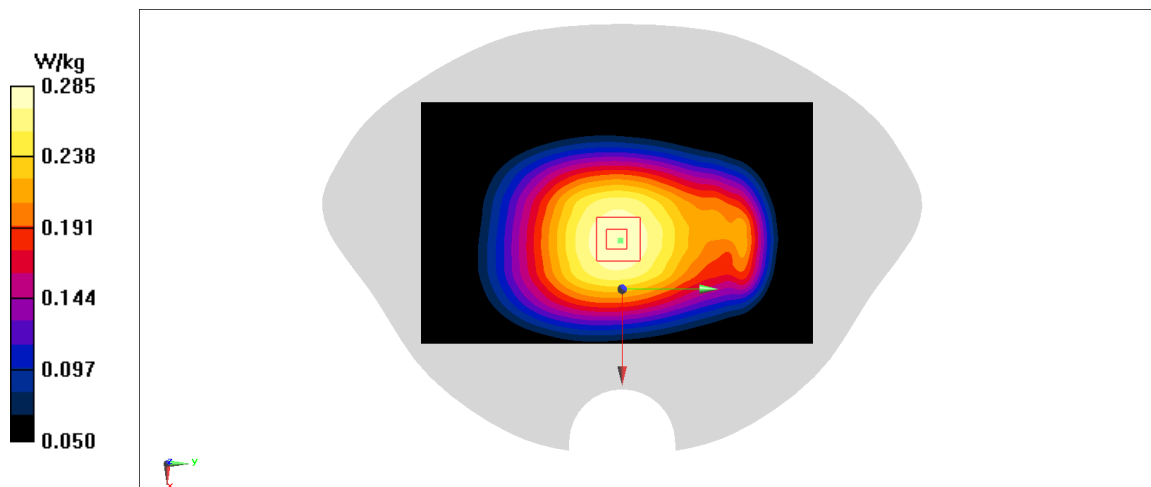


Fig A.19

**LTE2600-TDD41\_CH41140 Left Cheek**

Date: 11/24/2020

Electronics: DAE4 Sn777

Medium: head 2600 MHz

Medium parameters used:  $f = 2645$ ;  $\sigma = 2.015$  mho/m;  $\epsilon_r = 38.83$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE2600-TDD41 2645 Duty Cycle: 1:1.58

Probe: EX3DV4 – SN3617 ConvF(7.52,7.52,7.52)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.03 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.403 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.029 W/kg

**SAR(1 g) = 0.015 W/kg; SAR(10 g) = 0.007 W/kg**

Maximum value of SAR (measured) = 0.0239 W/kg

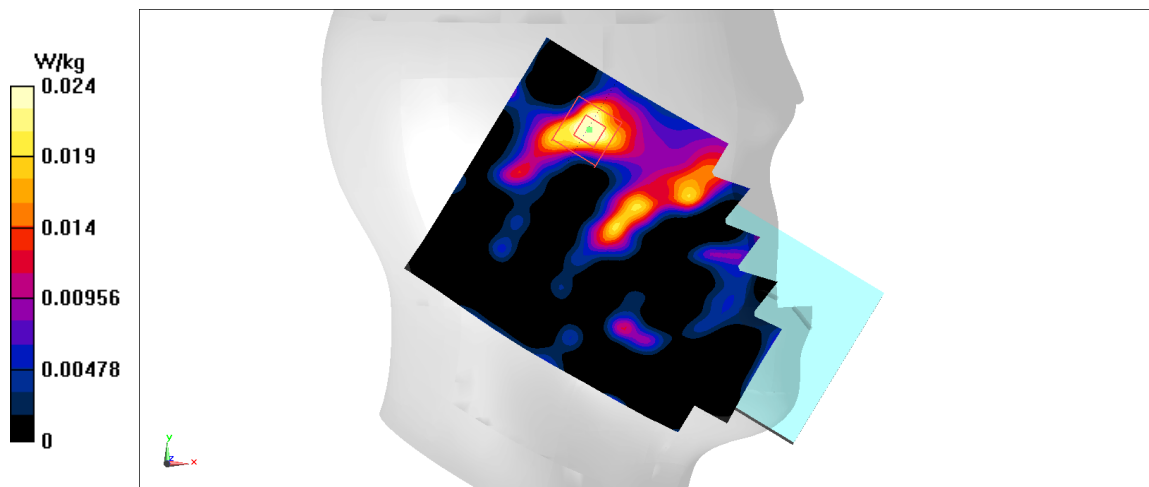


Fig A.20



**LTE2600-TDD41\_CH41140 Bottom**

Date: 11/24/2020

Electronics: DAE4 Sn777

Medium: head 2600 MHz

Medium parameters used:  $f = 2645$ ;  $\sigma = 2.015$  mho/m;  $\epsilon_r = 38.83$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE2600-TDD41 2645 Duty Cycle: 1:1.58

Probe: EX3DV4 – SN3617 ConvF(7.52,7.52,7.52)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.466 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.42 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.576 W/kg

**SAR(1 g) = 0.259 W/kg; SAR(10 g) = 0.113 W/kg**

Maximum value of SAR (measured) = 0.45 W/kg

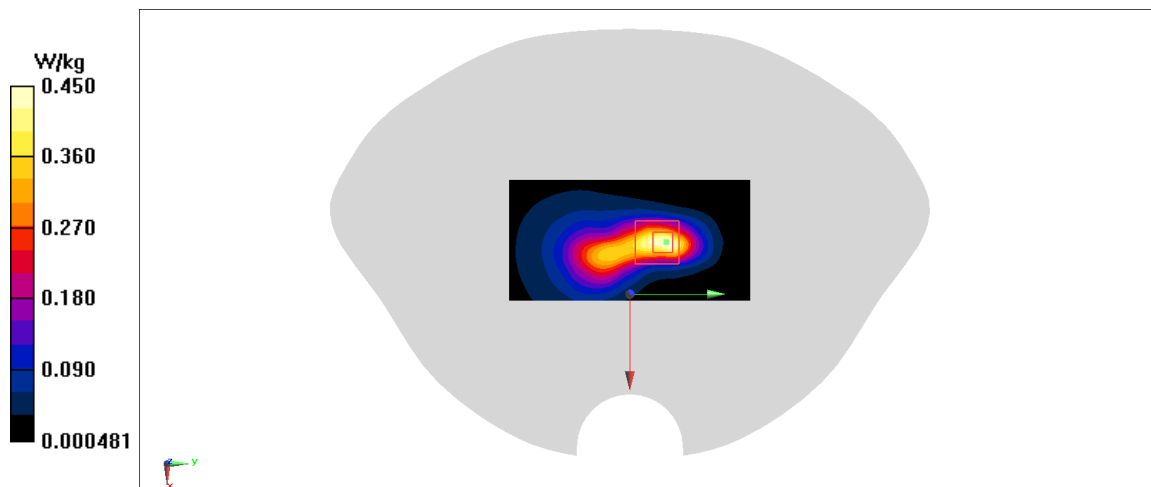


Fig A.21

**LTE1750-FDD66\_CH132752 Right Cheek**

Date: 11/17/2020

Electronics: DAE4 Sn777

Medium: head 1750 MHz

Medium parameters used:  $f = 1770$  MHz;  $\sigma = 1.388$  mho/m;  $\epsilon_r = 40.07$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE1750-FDD66 1770 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.41,8.41,8.41)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.148 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.606 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.171 W/kg

**SAR(1 g) = 0.109 W/kg; SAR(10 g) = 0.068 W/kg**

Maximum value of SAR (measured) = 0.148 W/kg

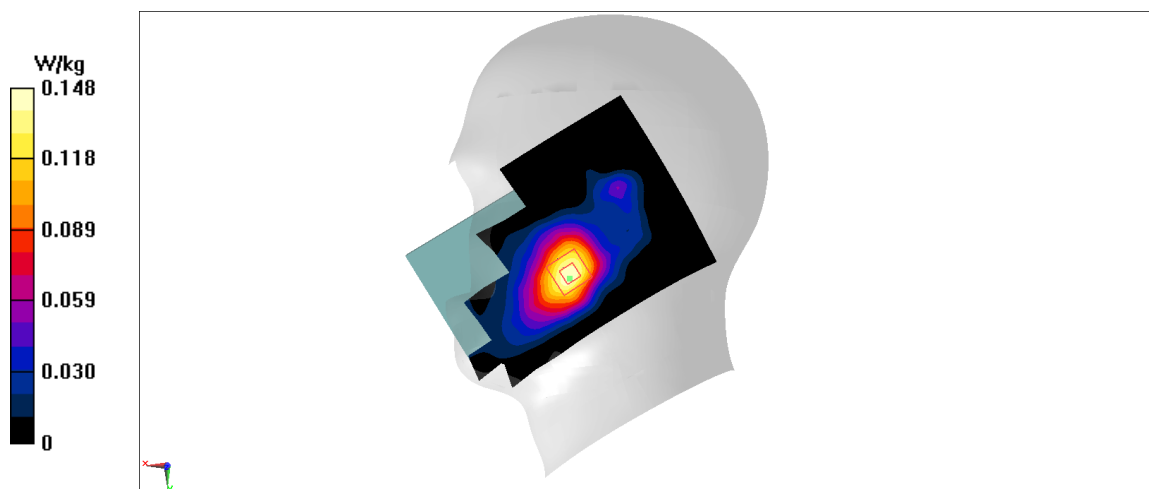


Fig A.22

**LTE1750-FDD66\_CH132752 Bottom**

Date: 11/17/2020

Electronics: DAE4 Sn777

Medium: head 1750 MHz

Medium parameters used:  $f = 1770$  MHz;  $\sigma = 1.388$  mho/m;  $\epsilon_r = 40.07$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE1750-FDD66 1770 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.41,8.41,8.41)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.66 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 21.1 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 1.95 W/kg

**SAR(1 g) = 1.07 W/kg; SAR(10 g) = 0.564 W/kg**

Maximum value of SAR (measured) = 1.56 W/kg

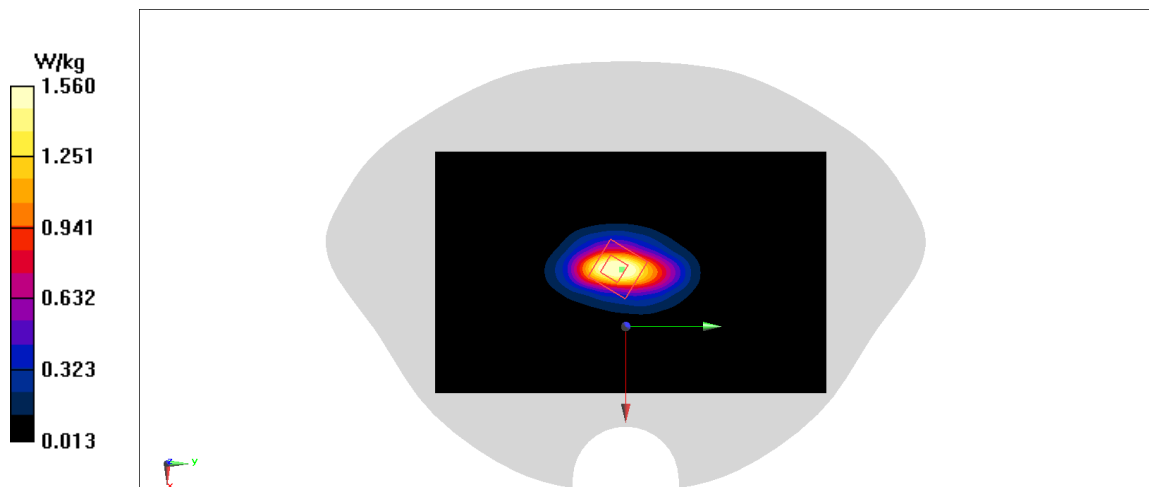


Fig A.23

**LTE1750-FDD66\_CH132752 Rear**

Date: 11/17/2020

Electronics: DAE4 Sn777

Medium: head 1750 MHz

Medium parameters used:  $f = 1770 \text{ MHz}$ ;  $\sigma = 1.388 \text{ mho/m}$ ;  $\epsilon_r = 40.07$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.5^\circ\text{C}$ , Liquid Temperature:  $22.3^\circ\text{C}$

Communication System: LTE1750-FDD66 1770 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.41,8.41,8.41)

**Area Scan (71x121x1):** Interpolated grid:  $dx=1.000 \text{ mm}$ ,  $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.964 \text{ W/kg}$

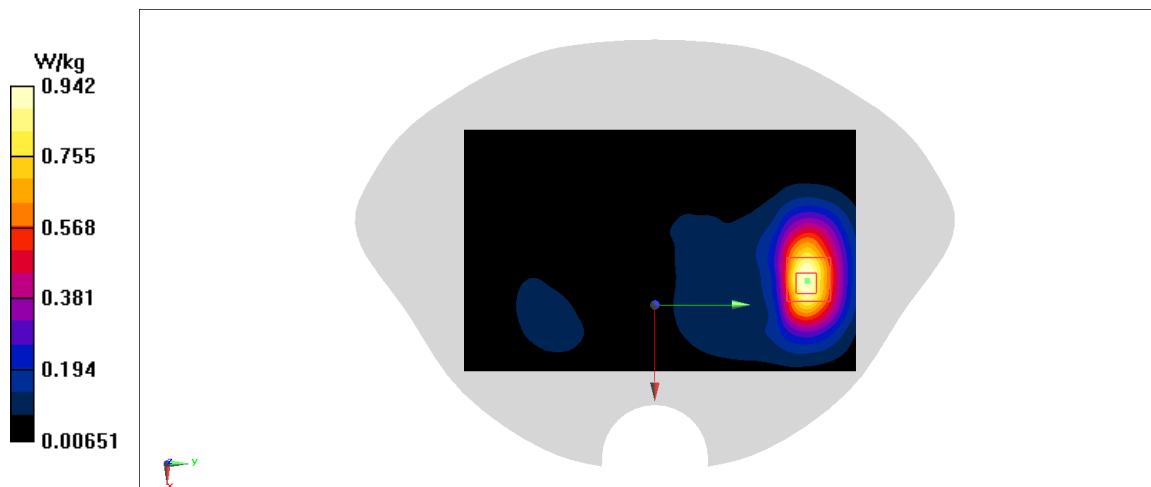
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $5.594 \text{ V/m}$ ; Power Drift =  $0.06 \text{ dB}$

Peak SAR (extrapolated) =  $1.12 \text{ W/kg}$

**SAR(1 g) =  $0.671 \text{ W/kg}$ ; SAR(10 g) =  $0.384 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.942 \text{ W/kg}$



**Fig A.24**

**GSM850\_CH251 Left Tilt**

Date: 11/14/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used:  $f = 848.8$ ;  $\sigma = 0.903$  mho/m;  $\epsilon_r = 41.25$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: GSM850 848.8 Duty Cycle: 1: 8.3

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.03 W/kg

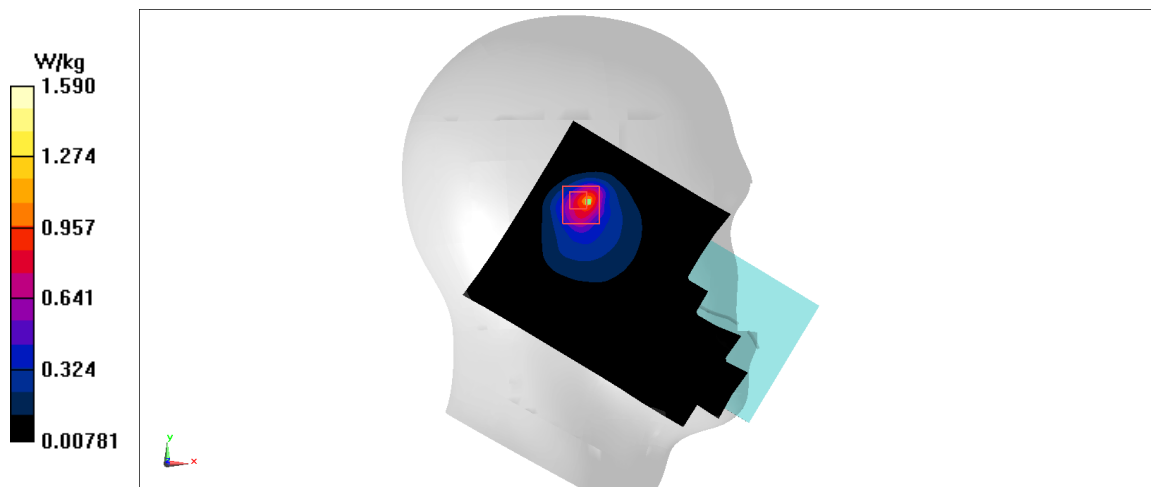
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 19.77 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 2.61 W/kg

**SAR(1 g) = 0.736 W/kg; SAR(10 g) = 0.309 W/kg**

Maximum value of SAR (measured) = 1.59 W/kg



**Fig A.25**

**GSM850\_CH190 Rear**

Date: 11/14/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used:  $f = 836.6$ ;  $\sigma = 0.892$  mho/m;  $\epsilon_r = 41.27$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: GSM850 836.6 Duty Cycle: 1: 2

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.406 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.69 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.485 W/kg

**SAR(1 g) = 0.244 W/kg; SAR(10 g) = 0.146 W/kg**

Maximum value of SAR (measured) = 0.378 W/kg

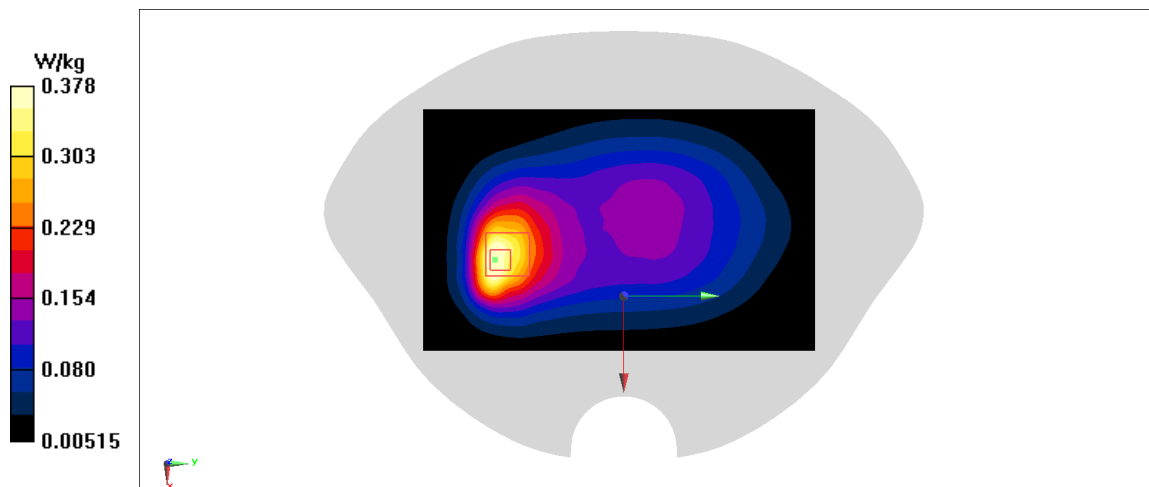


Fig A.26

**PCS1900\_CH810 Left Tilt**

Date: 11/18/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used:  $f = 1909.8$ ;  $\sigma = 1.422$  mho/m;  $\epsilon_r = 39.76$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: PCS1900 1909.8 Duty Cycle: 1: 8.3

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.442 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.78 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.787 W/kg

**SAR(1 g) = 0.362 W/kg; SAR(10 g) = 0.17 W/kg**

Maximum value of SAR (measured) = 0.627 W/kg

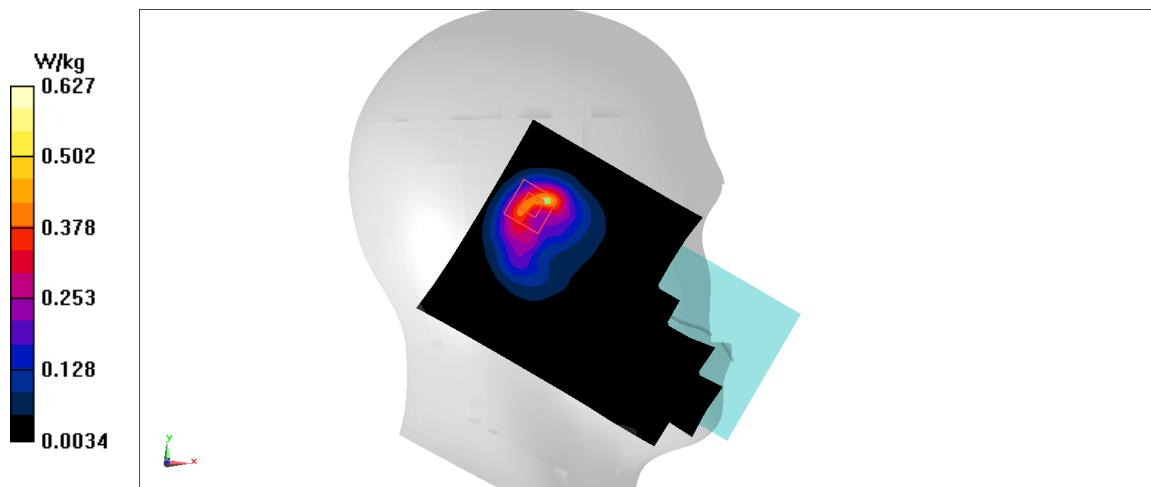


Fig A.27

**PCS1900\_CH810 Rear**

Date: 11/18/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used:  $f = 1909.8$ ;  $\sigma = 1.422$  mho/m;  $\epsilon_r = 39.76$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: PCS1900 1909.8 Duty Cycle: 1: 2

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.815 W/kg

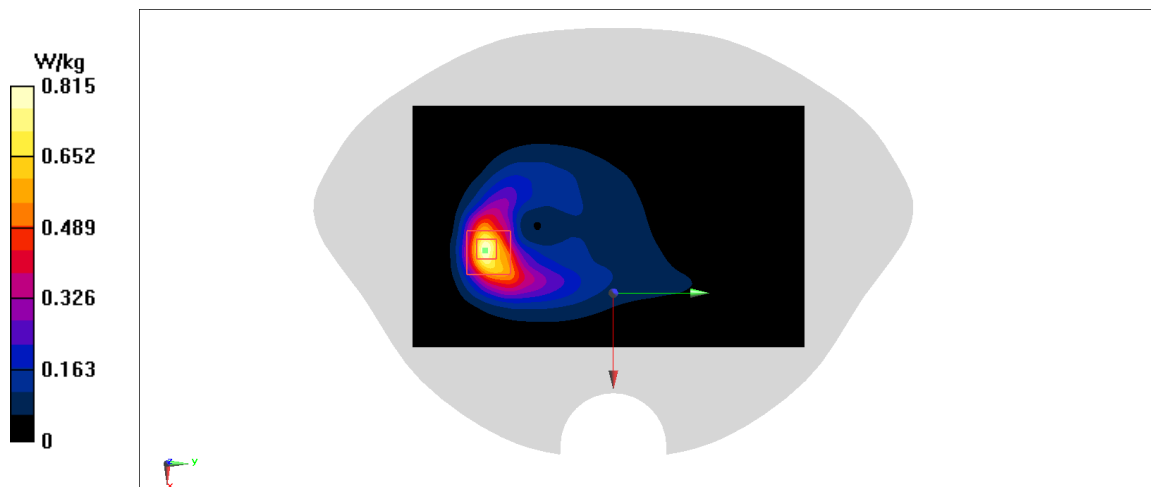
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.548 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 1.17 W/kg

**SAR(1 g) = 0.551 W/kg; SAR(10 g) = 0.257 W/kg**

Maximum value of SAR (measured) = 0.905 W/kg



**Fig A.28**



**WCDMA1900-BII\_CH9938 Left Cheek**

Date: 11/19/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used:  $f = 1907.6$ ;  $\sigma = 1.395$  mho/m;  $\epsilon_r = 39.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA1900-BII 1907.6 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.487 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.8 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.59 W/kg

**SAR(1 g) = 0.321 W/kg; SAR(10 g) = 0.181 W/kg**

Maximum value of SAR (measured) = 0.479 W/kg

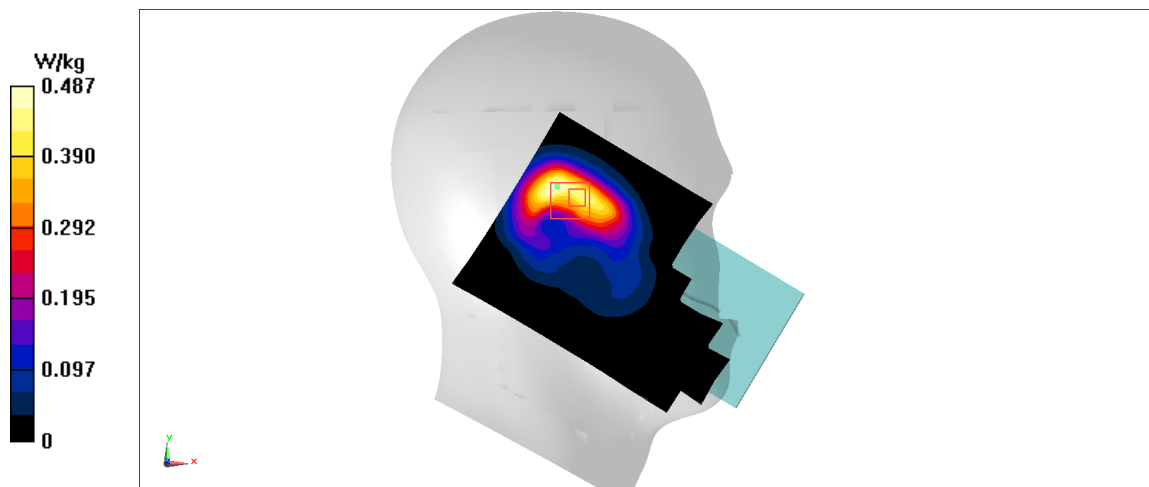


Fig A.29

**WCDMA1900-BII\_CH9938 Rear**

Date: 11/19/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used:  $f = 1907.6$ ;  $\sigma = 1.395$  mho/m;  $\epsilon_r = 39.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA1900-BII 1907.6 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.759 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.718 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.937 W/kg

**SAR(1 g) = 0.452 W/kg; SAR(10 g) = 0.216 W/kg**

Maximum value of SAR (measured) = 0.741 W/kg

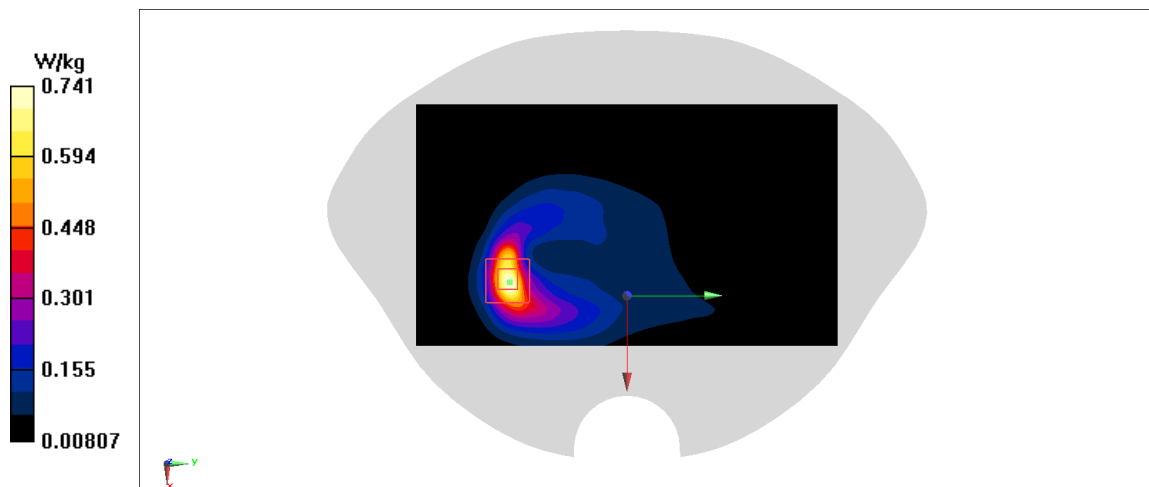


Fig A.30

**WCDMA850-BV\_CH4233 Left Cheek**

Date: 11/15/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used:  $f = 846.6$ ;  $\sigma = 0.909$  mho/m;  $\epsilon_r = 40.91$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA850-BV 846.6 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.427 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.25 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.562 W/kg

**SAR(1 g) = 0.273 W/kg; SAR(10 g) = 0.172 W/kg**

Maximum value of SAR (measured) = 0.423 W/kg

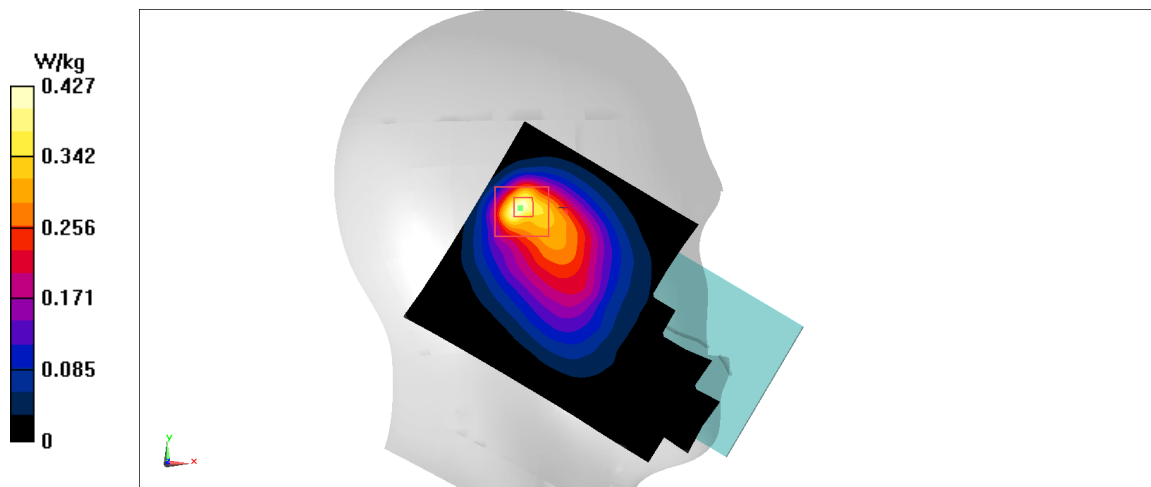


Fig A.31

**WCDMA850-BV\_CH4182 Rear**

Date: 11/15/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used:  $f = 836.4$ ;  $\sigma = 0.899$  mho/m;  $\epsilon_r = 40.92$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA850-BV 836.4 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.198 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.73 V/m; Power Drift = 0.1 dB

Peak SAR (extrapolated) = 0.245 W/kg

**SAR(1 g) = 0.131 W/kg; SAR(10 g) = 0.081 W/kg**

Maximum value of SAR (measured) = 0.197 W/kg

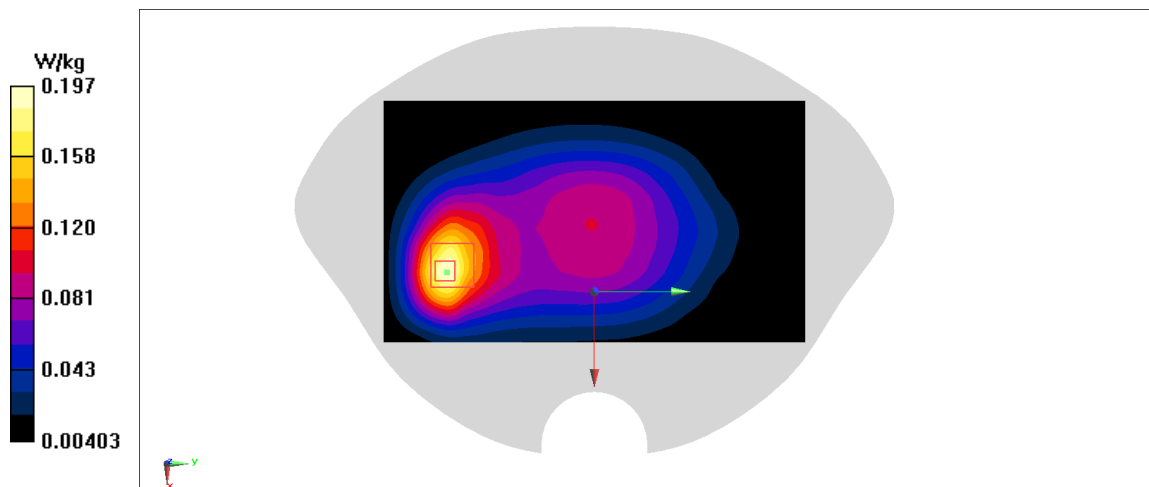


Fig A.32

**LTE1900-FDD2\_CH19100 Left Cheek**

Date: 11/20/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.385$  mho/m;  $\epsilon_r = 39.78$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE1900-FDD2 1900 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.807 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.61 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.07 W/kg

**SAR(1 g) = 0.514 W/kg; SAR(10 g) = 0.267 W/kg**

Maximum value of SAR (measured) = 0.838 W/kg

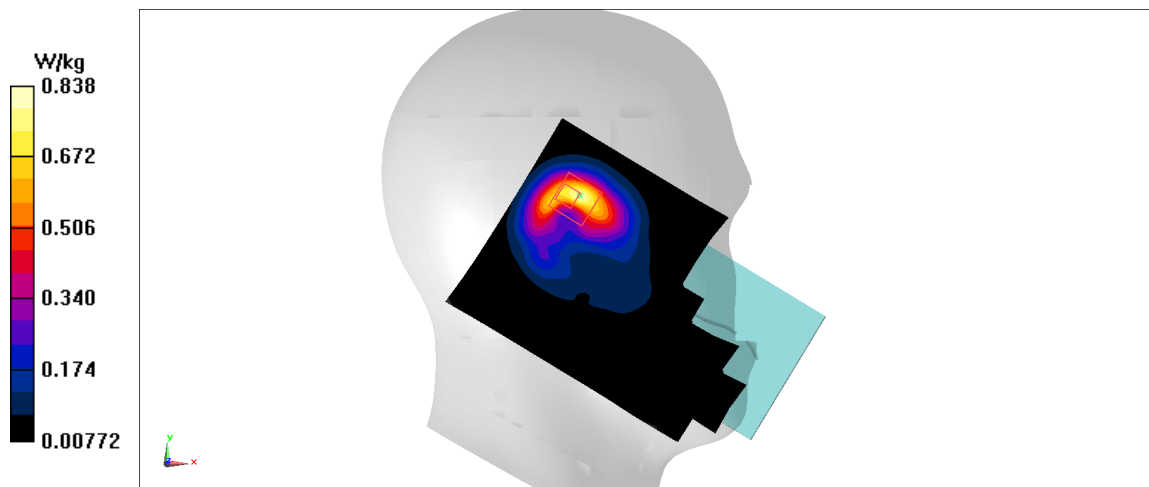


Fig A.33

**LTE1900-FDD2\_CH19100 Rear**

Date: 11/20/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.385$  mho/m;  $\epsilon_r = 39.78$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE1900-FDD2 1900 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.697 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.302 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 1.05 W/kg

**SAR(1 g) = 0.508 W/kg; SAR(10 g) = 0.24 W/kg**

Maximum value of SAR (measured) = 0.84 W/kg

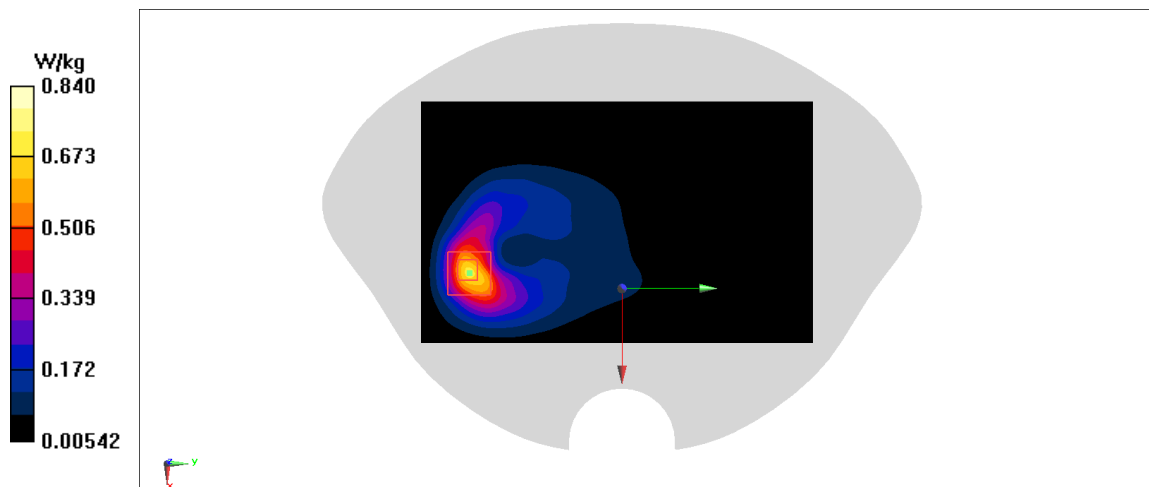


Fig A.34

**LTE850-FDD5\_CH20600 Left Cheek**

Date: 11/16/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used:  $f = 844 \text{ MHz}$ ;  $\sigma = 0.927 \text{ mho/m}$ ;  $\epsilon_r = 41.48$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.5^\circ\text{C}$ , Liquid Temperature:  $22.3^\circ\text{C}$

Communication System: LTE850-FDD5 844 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

**Area Scan (71x121x1):** Interpolated grid:  $dx=1.000 \text{ mm}$ ,  $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.775 \text{ W/kg}$

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $17.56 \text{ V/m}$ ; Power Drift =  $0.05 \text{ dB}$

Peak SAR (extrapolated) =  $1.55 \text{ W/kg}$

**SAR(1 g) =  $0.554 \text{ W/kg}$ ; SAR(10 g) =  $0.29 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.981 \text{ W/kg}$

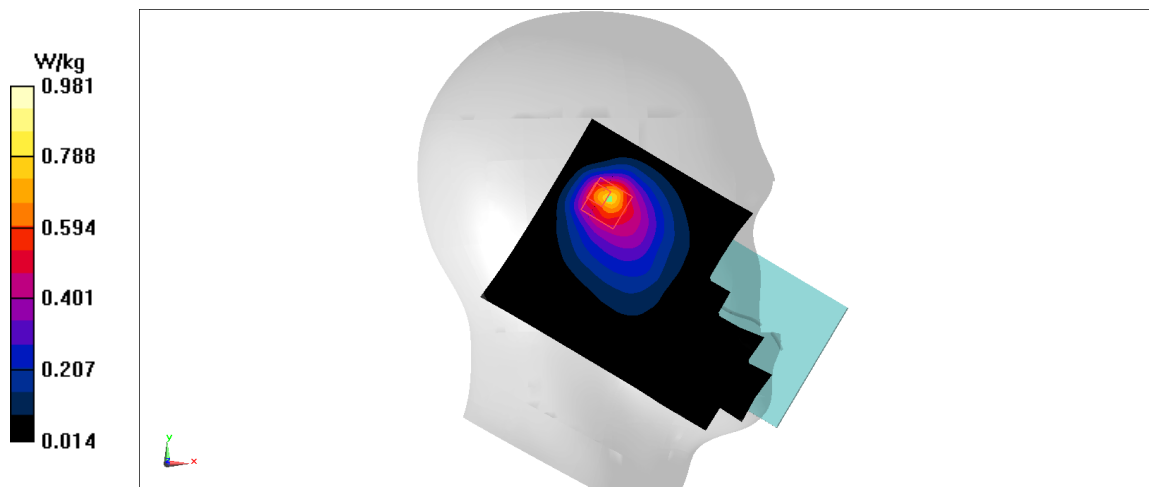


Fig A.35

**LTE850-FDD5\_CH20600 Rear**

Date: 11/16/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used:  $f = 844 \text{ MHz}$ ;  $\sigma = 0.927 \text{ mho/m}$ ;  $\epsilon_r = 41.48$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.5^\circ\text{C}$ , Liquid Temperature:  $22.3^\circ\text{C}$

Communication System: LTE850-FDD5 844 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

**Area Scan (71x121x1):** Interpolated grid:  $dx=1.000 \text{ mm}$ ,  $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.311 \text{ W/kg}$

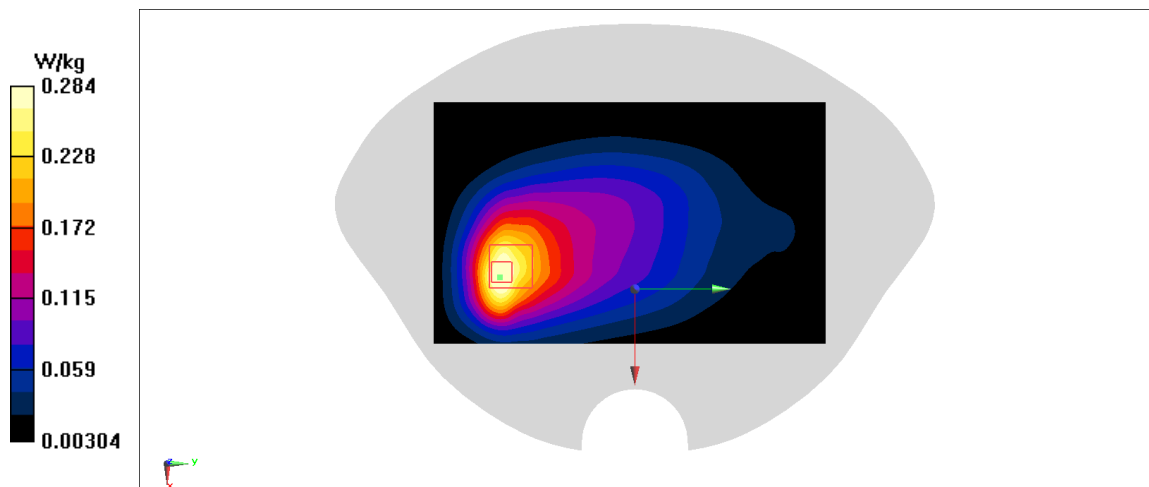
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $10.73 \text{ V/m}$ ; Power Drift =  $-0.08 \text{ dB}$

Peak SAR (extrapolated) =  $0.36 \text{ W/kg}$

**SAR(1 g) =  $0.193 \text{ W/kg}$ ; SAR(10 g) =  $0.121 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.284 \text{ W/kg}$



**Fig A.36**



**LTE2500-FDD7\_CH21100 Left Cheek**

Date: 11/22/2020

Electronics: DAE4 Sn777

Medium: head 2600 MHz

Medium parameters used:  $f = 2535 \text{ MHz}$ ;  $\sigma = 1.912 \text{ mho/m}$ ;  $\epsilon_r = 39.68$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.5^\circ\text{C}$ , Liquid Temperature:  $22.3^\circ\text{C}$

Communication System: LTE2500-FDD7 2535 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(7.52,7.52,7.52)

**Area Scan (71x121x1):** Interpolated grid:  $dx=1.000 \text{ mm}$ ,  $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) =  $1.84 \text{ W/kg}$

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $15.83 \text{ V/m}$ ; Power Drift =  $-0.1 \text{ dB}$

Peak SAR (extrapolated) =  $1.86 \text{ W/kg}$

**SAR(1 g) =  $0.787 \text{ W/kg}$ ; SAR(10 g) =  $0.355 \text{ W/kg}$**

Maximum value of SAR (measured) =  $1.42 \text{ W/kg}$

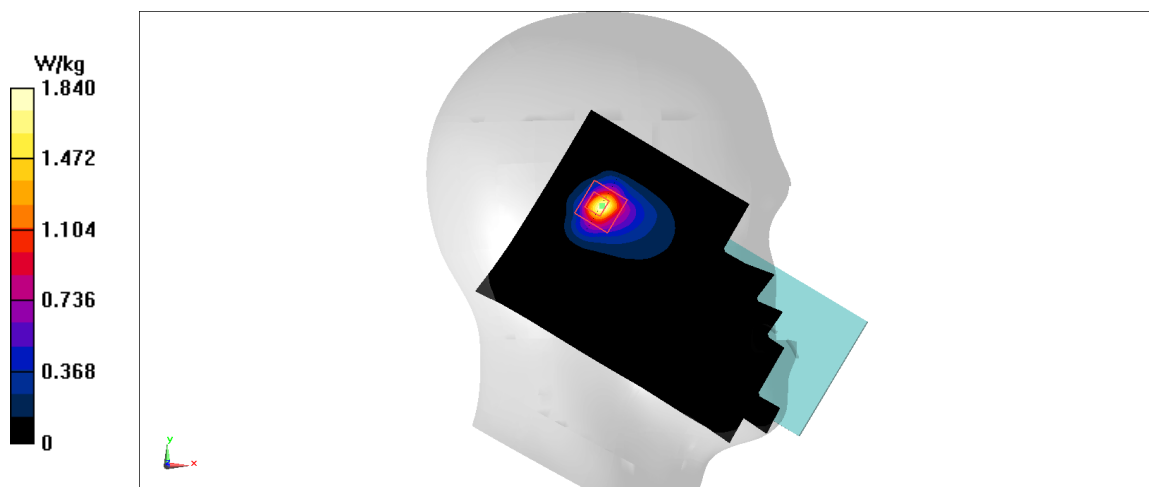


Fig A.37

**LTE2500-FDD7\_CH20850 Rear**

Date: 11/22/2020

Electronics: DAE4 Sn777

Medium: head 2600 MHz

Medium parameters used:  $f = 2510$  MHz;  $\sigma = 1.888$  mho/m;  $\epsilon_r = 39.71$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE2500-FDD7 2510 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(7.52,7.52,7.52)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.04 W/kg

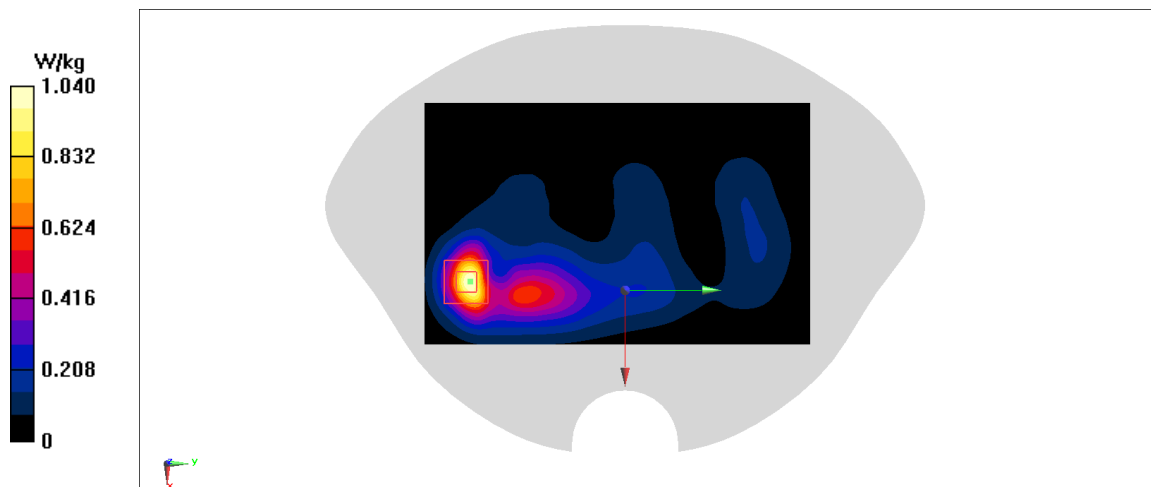
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.266 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 1.35 W/kg

**SAR(1 g) = 0.606 W/kg; SAR(10 g) = 0.26 W/kg**

Maximum value of SAR (measured) = 1.04 W/kg



**Fig A.38**

**LTE700-FDD12\_CH23095 Left Cheek**

Date: 11/13/2020

Electronics: DAE4 Sn777

Medium: head 750 MHz

Medium parameters used:  $f = 707.5$  MHz;  $\sigma = 0.868$  mho/m;  $\epsilon_r = 41.98$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE700-FDD12 707.5 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(10.07,10.07,10.07)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.181 W/kg

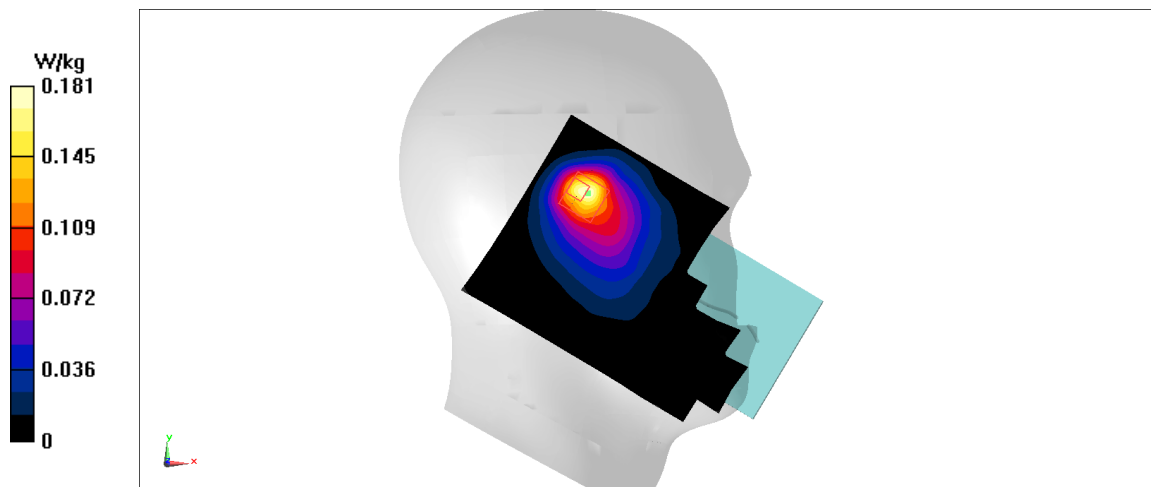
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.784 V/m; Power Drift = 0 dB

Peak SAR (extrapolated) = 0.418 W/kg

**SAR(1 g) = 0.136 W/kg; SAR(10 g) = 0.068 W/kg**

Maximum value of SAR (measured) = 0.248 W/kg



**Fig A.39**

**LTE700-FDD12\_CH23095 Rear**

Date: 11/13/2020

Electronics: DAE4 Sn777

Medium: head 750 MHz

Medium parameters used:  $f = 707.5$  MHz;  $\sigma = 0.868$  mho/m;  $\epsilon_r = 41.98$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE700-FDD12 707.5 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(10.07,10.07,10.07)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0708 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.662 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.09 W/kg

**SAR(1 g) = 0.044 W/kg; SAR(10 g) = 0.027 W/kg**

Maximum value of SAR (measured) = 0.0694 W/kg

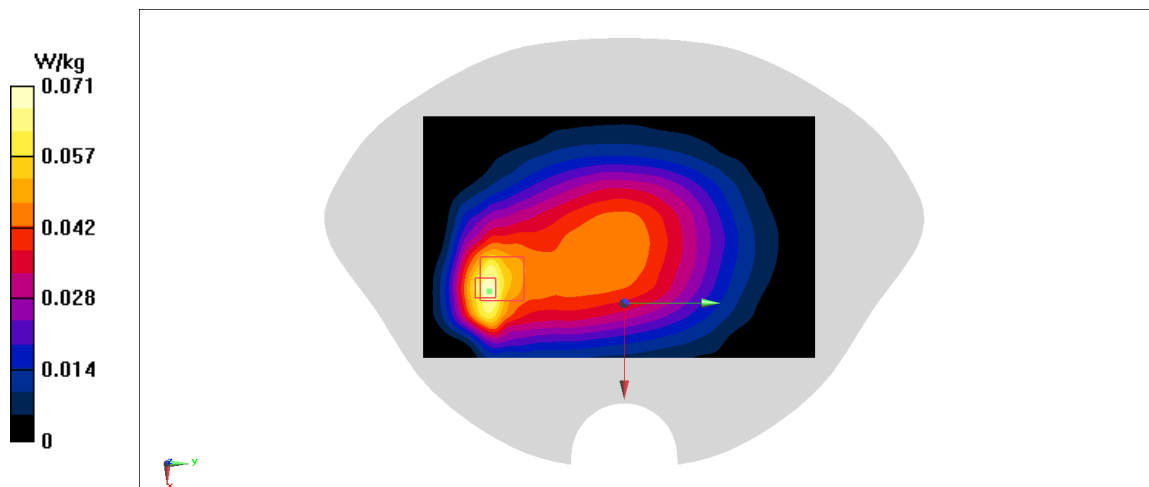


Fig A.40

**LTE2600-TDD41\_CH41140 Left Cheek**

Date: 11/24/2020

Electronics: DAE4 Sn777

Medium: head 2600 MHz

Medium parameters used:  $f = 2645$ ;  $\sigma = 2.015$  mho/m;  $\epsilon_r = 38.83$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE2600-TDD41 2645 Duty Cycle: 1:1.58

Probe: EX3DV4 – SN3617 ConvF(7.52,7.52,7.52)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.54 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.82 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 2.31 W/kg

**SAR(1 g) = 0.916 W/kg; SAR(10 g) = 0.456 W/kg**

Maximum value of SAR (measured) = 1.65 W/kg

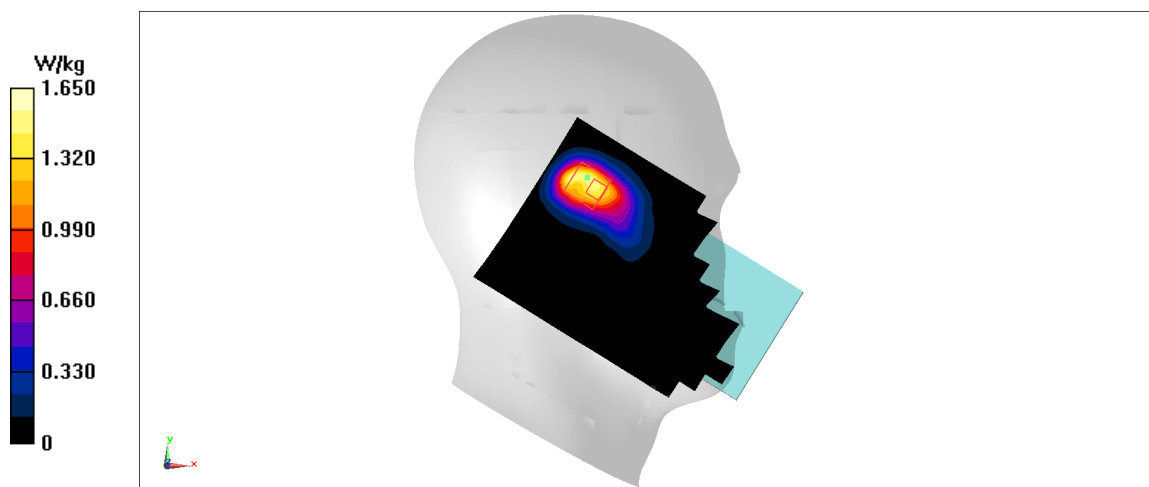


Fig A.41

**LTE2600-TDD41\_CH41140 Rear**

Date: 11/24/2020

Electronics: DAE4 Sn777

Medium: head 2600 MHz

Medium parameters used:  $f = 2645$ ;  $\sigma = 2.015$  mho/m;  $\epsilon_r = 38.83$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE2600-TDD41 2645 Duty Cycle: 1:1.58

Probe: EX3DV4 – SN3617 ConvF(7.52,7.52,7.52)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.609 W/kg

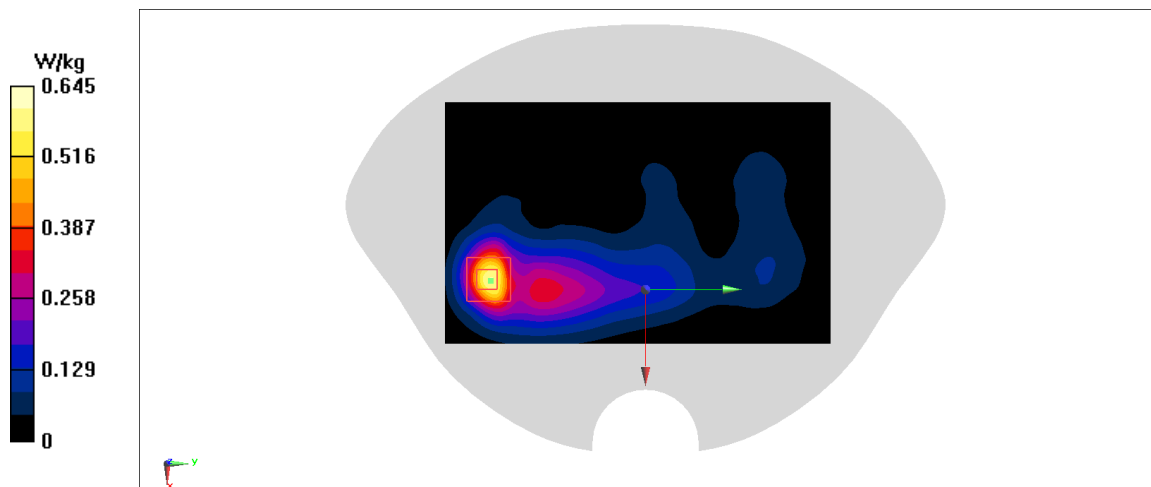
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.454 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.841 W/kg

**SAR(1 g) = 0.375 W/kg; SAR(10 g) = 0.163 W/kg**

Maximum value of SAR (measured) = 0.645 W/kg



**Fig A.42**

**LTE1750-FDD66\_CH132752 Left Cheek**

Date: 11/17/2020

Electronics: DAE4 Sn777

Medium: head 1750 MHz

Medium parameters used:  $f = 1770$  MHz;  $\sigma = 1.388$  mho/m;  $\epsilon_r = 40.07$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE1750-FDD66 1770 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.41,8.41,8.41)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.752 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.08 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.877 W/kg

**SAR(1 g) = 0.486 W/kg; SAR(10 g) = 0.257 W/kg**

Maximum value of SAR (measured) = 0.717 W/kg

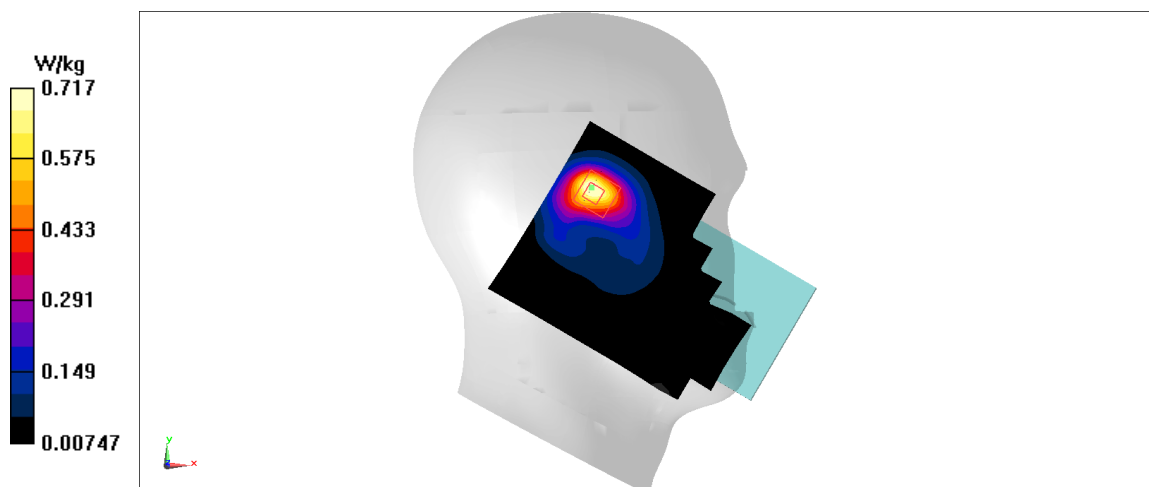


Fig A.43

**LTE1700-FDD66\_CH132752 Rear**

Date: 11/17/2020

Electronics: DAE4 Sn777

Medium: head 1750 MHz

Medium parameters used:  $f = 1770$  MHz;  $\sigma = 1.388$  mho/m;  $\epsilon_r = 40.07$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE1750-FDD66 1770 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.41,8.41,8.41)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.405 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.403 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.506 W/kg

**SAR(1 g) = 0.251 W/kg; SAR(10 g) = 0.127 W/kg**

Maximum value of SAR (measured) = 0.405 W/kg

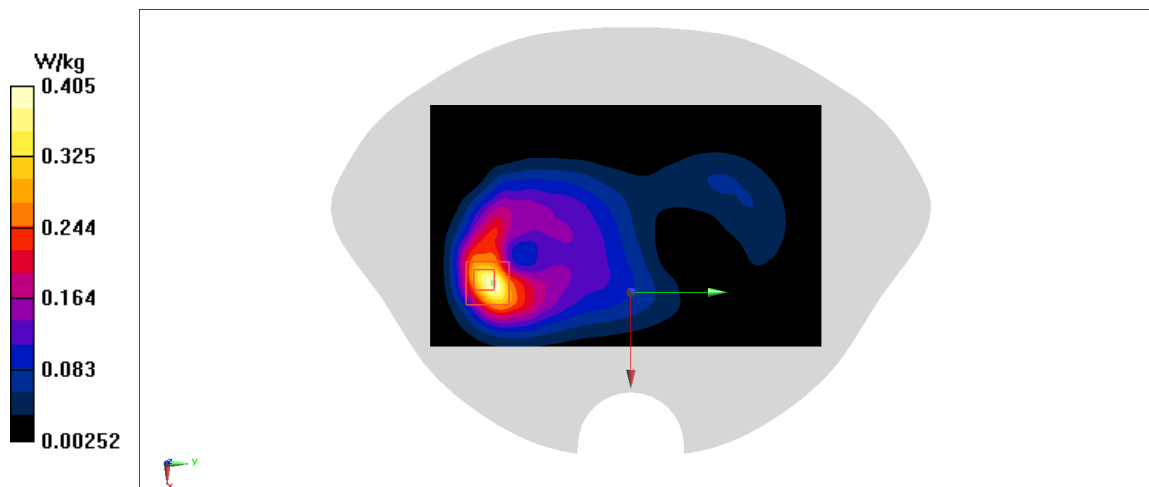


Fig A.44



**WLAN2450\_CH11 Right Tilt**

Date: 11/21/2020

Electronics: DAE4 Sn777

Medium: head 2450 MHz

Medium parameters used:  $f = 2462$ ;  $\sigma = 1.812$  mho/m;  $\epsilon_r = 39.28$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WLAN2450 2462 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(7.65,7.65,7.65)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.01 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.89 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 1.3 W/kg

**SAR(1 g) = 0.537 W/kg; SAR(10 g) = 0.239 W/kg**

Maximum value of SAR (measured) = 0.953 W/kg

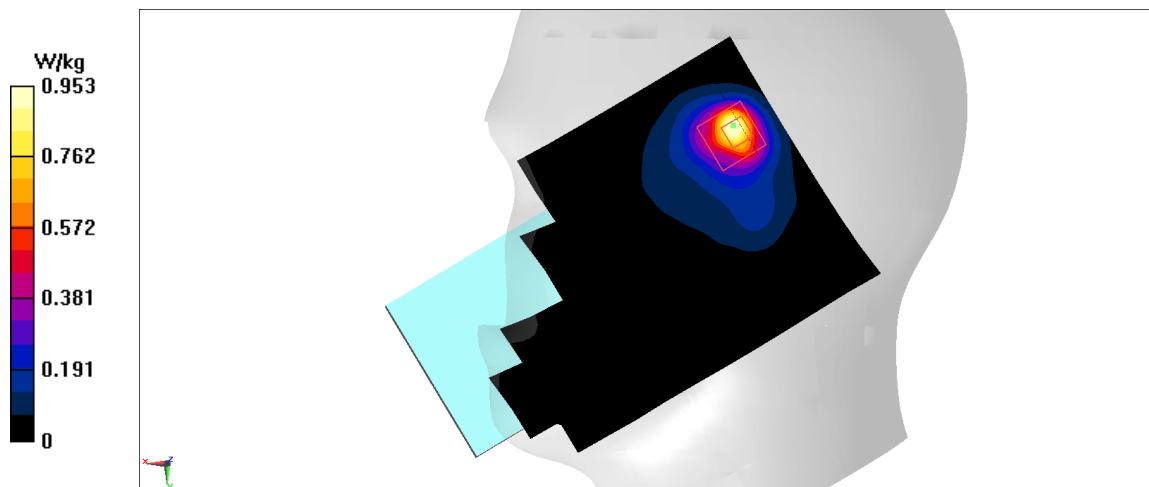


Fig A.45

**WLAN2450\_CH11 Rear**

Date: 11/21/2020

Electronics: DAE4 Sn777

Medium: head 2450 MHz

Medium parameters used:  $f = 2462$ ;  $\sigma = 1.812$  mho/m;  $\epsilon_r = 39.28$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WLAN2450 2462 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(7.65,7.65,7.65)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.351 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.461 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.398 W/kg

**SAR(1 g) = 0.196 W/kg; SAR(10 g) = 0.085 W/kg**

Maximum value of SAR (measured) = 0.331 W/kg

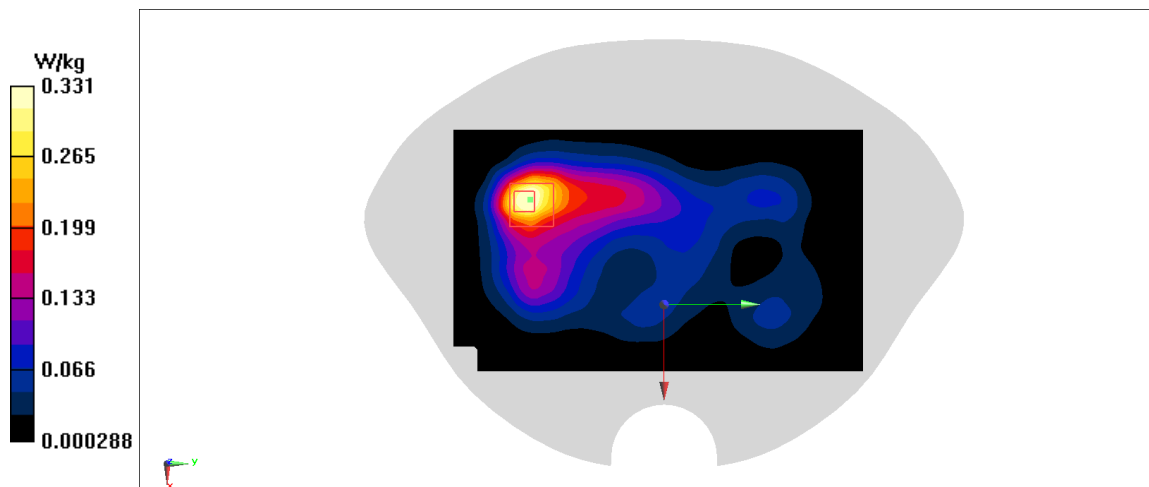


Fig A.46

### WLAN5G\_CH64 Right Tilt

Date: 11/25/2020

Electronics: DAE4 Sn777

Medium: head 5250 MHz

Medium parameters used:  $f = 5320$ ;  $\sigma = 4.747$  mho/m;  $\epsilon_r = 35.45$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WLAN5G 5320 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(5.29,5.29,5.29)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.986 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.319 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 3.83 W/kg

**SAR(1 g) = 0.811 W/kg; SAR(10 g) = 0.186 W/kg**

Maximum value of SAR (measured) = 2.13 W/kg

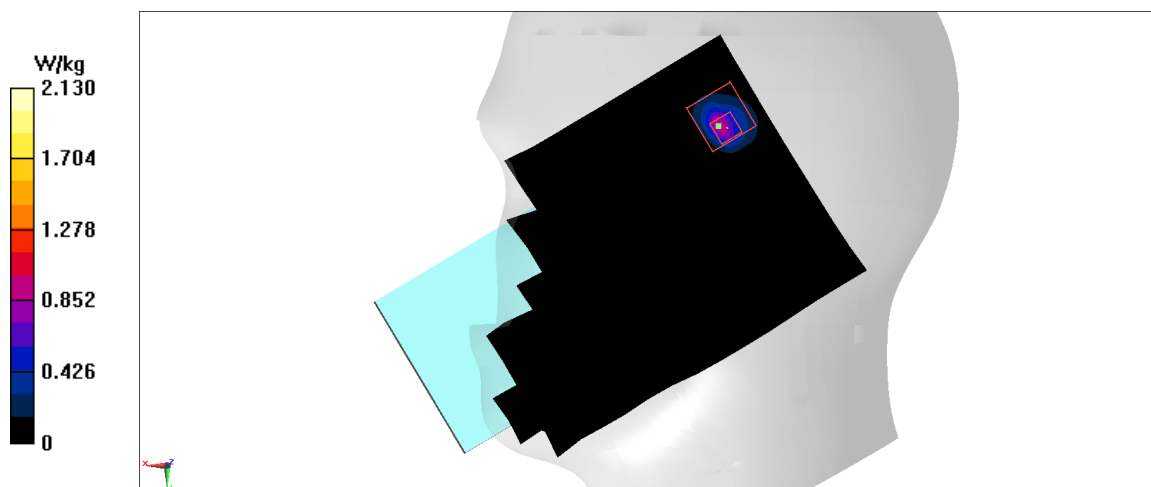


Fig A.47

**WLAN5G\_CH64 Top**

Date: 11/25/2020

Electronics: DAE4 Sn777

Medium: head 5250 MHz

Medium parameters used:  $f = 5320$ ;  $\sigma = 4.747$  mho/m;  $\epsilon_r = 35.45$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WLAN5G 5320 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(5.29,5.29,5.29)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.875 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.148 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 1.51 W/kg

**SAR(1 g) = 0.406 W/kg; SAR(10 g) = 0.142 W/kg**

Maximum value of SAR (measured) = 0.89 W/kg

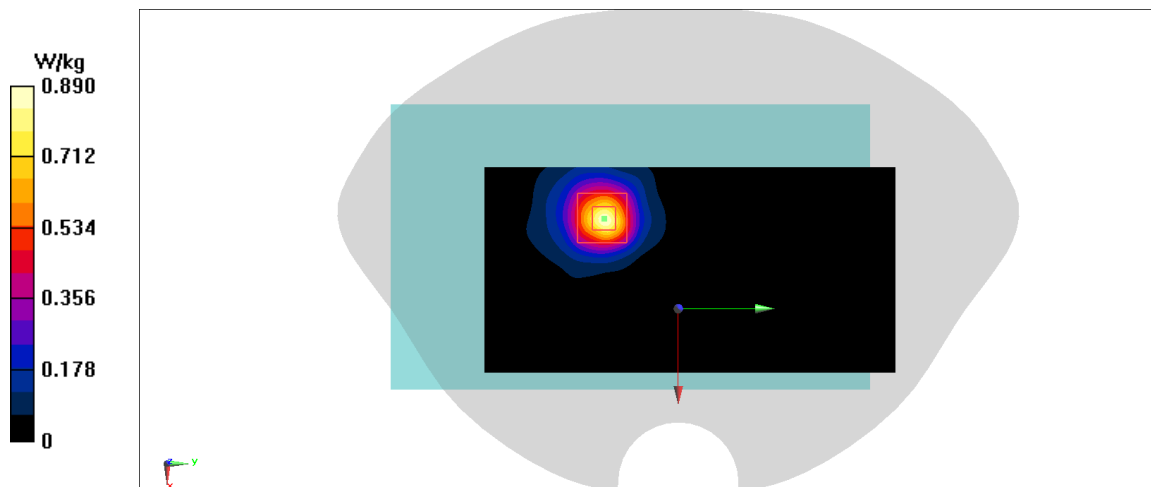


Fig A.48

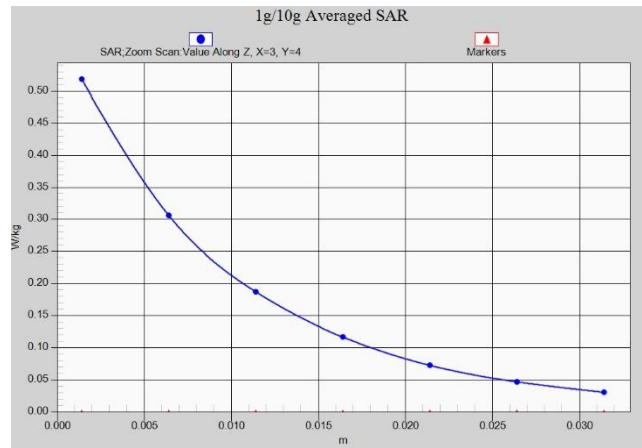


Fig. 1-1 Z-Scan at power reference point (850 MHz)

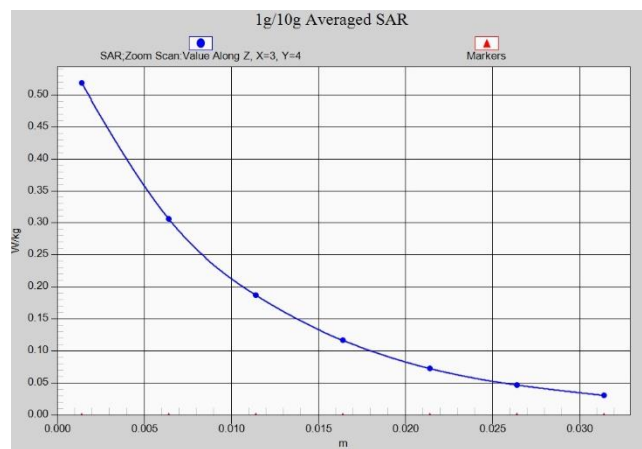


Fig. 1-2 Z-Scan at power reference point (850 MHz)

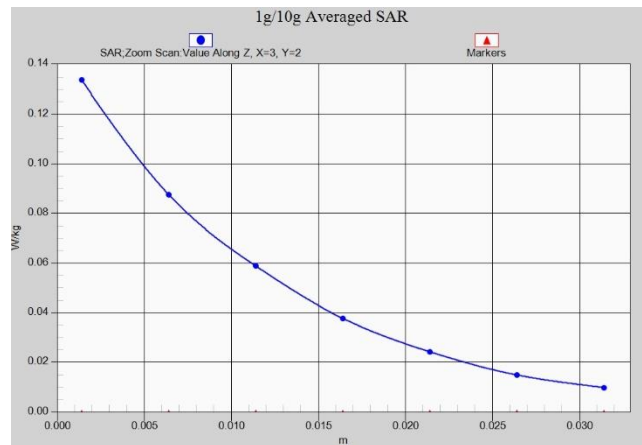


Fig. 1-3 Z-Scan at power reference point (1900 MHz)

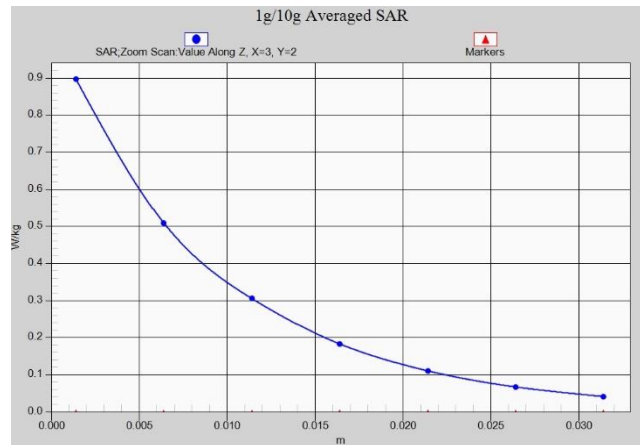


Fig. 1-4 Z-Scan at power reference point (1900 MHz)

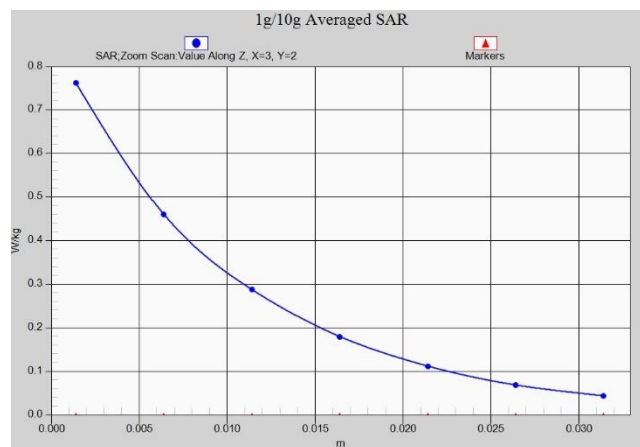


Fig. 1-5 Z-Scan at power reference point (1900 MHz)

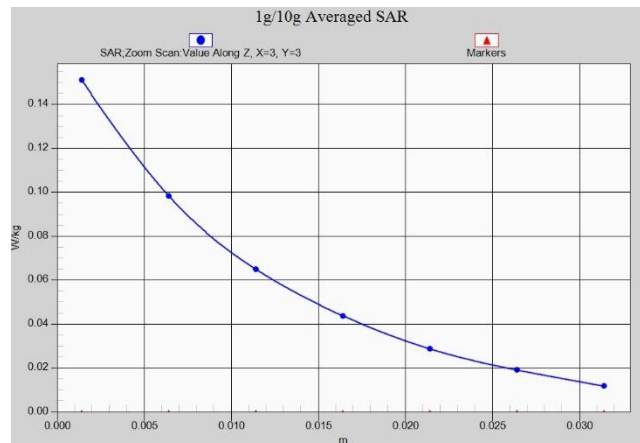


Fig. 1-6 Z-Scan at power reference point (WCDMA1900)

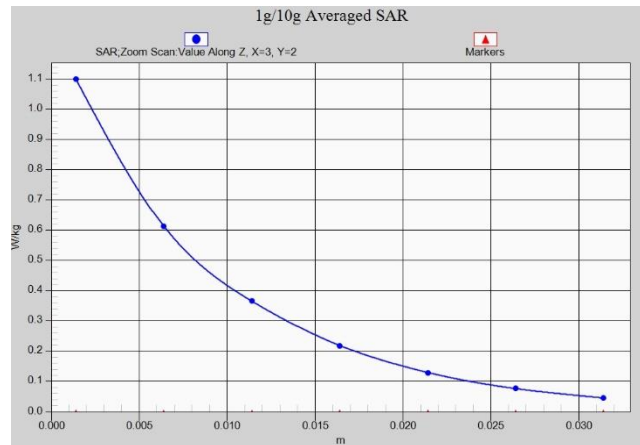


Fig. 1-7 Z-Scan at power reference point (WCDMA1900)

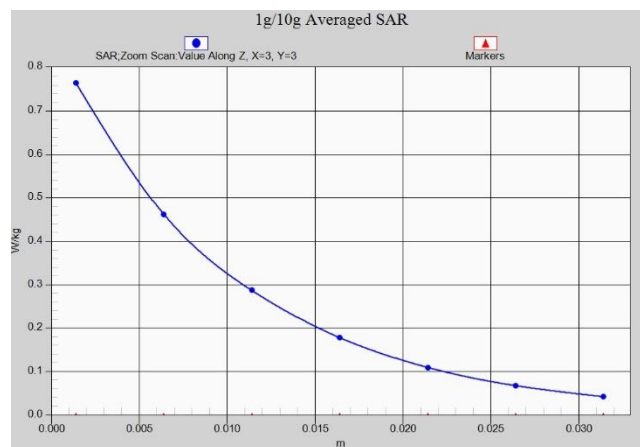


Fig. 1-8 Z-Scan at power reference point (WCDMA1900)

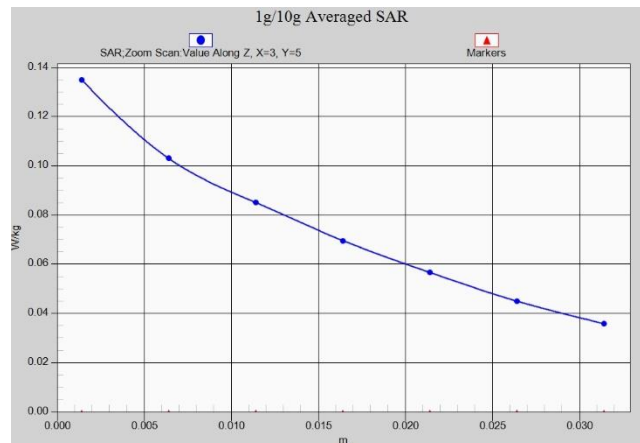
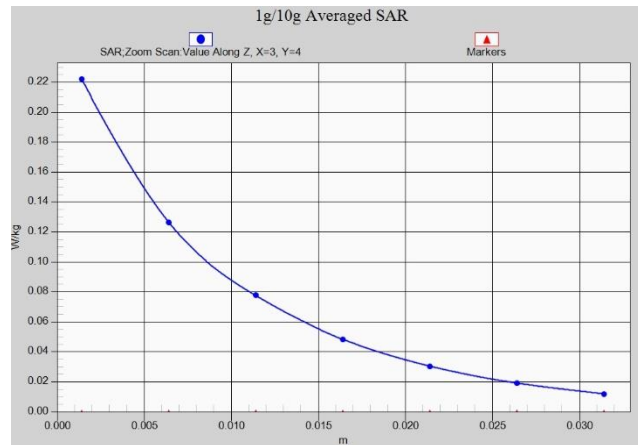
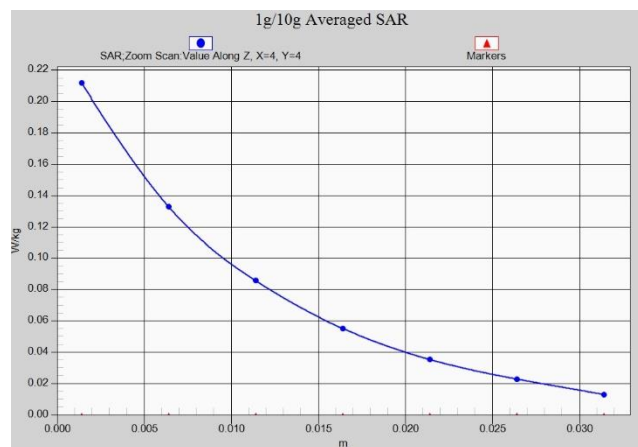


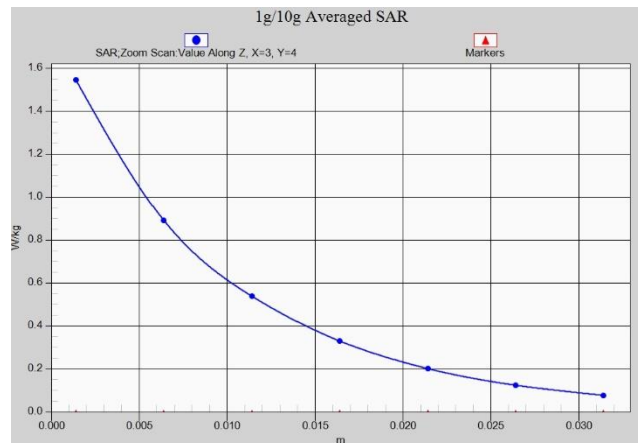
Fig. 1-9 Z-Scan at power reference point (WCDMA850)



**Fig. 1-10 Z-Scan at power reference point (WCDMA850)**

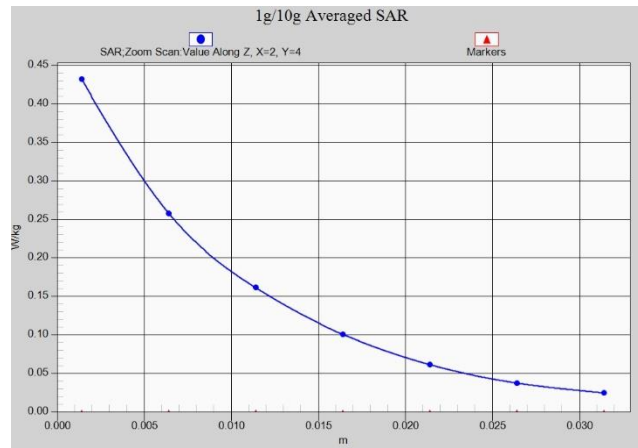


**Fig. 1-11 Z-Scan at power reference point (LTE Band2)**

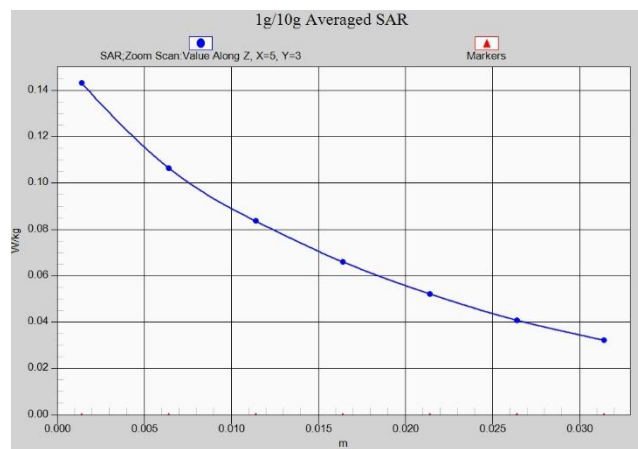


**Fig. 1-12 Z-Scan at power reference point (LTE Band2)**

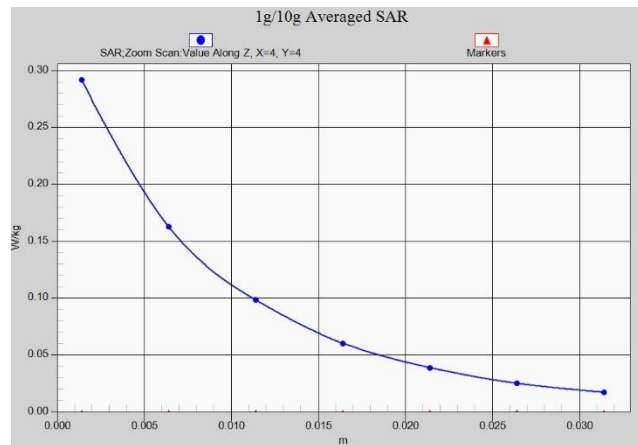




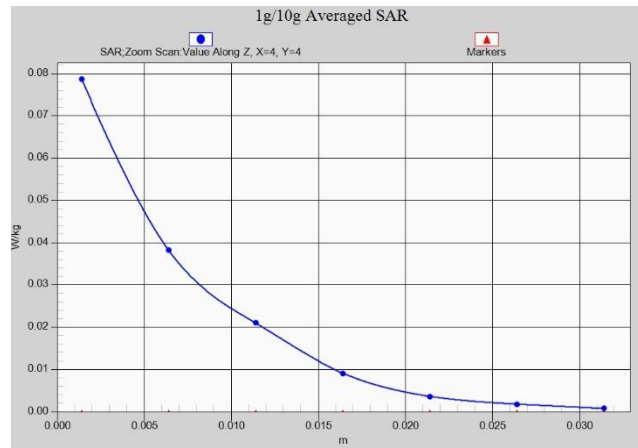
**Fig. 1-13 Z-Scan at power reference point (LTE Band2)**



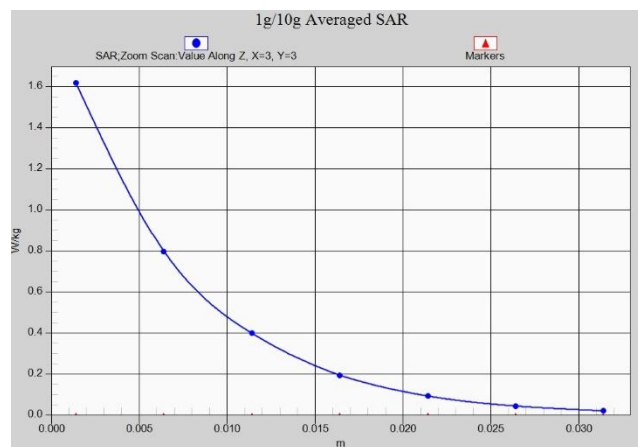
**Fig. 1-14 Z-Scan at power reference point (LTE Band5)**



**Fig. 1-15 Z-Scan at power reference point (LTE Band5)**



**Fig. 1-16 Z-Scan at power reference point (LTE Band7)**



**Fig. 1-17 Z-Scan at power reference point (LTE Band7)**



**Fig. 1-18 Z-Scan at power reference point (LTE Band12)**

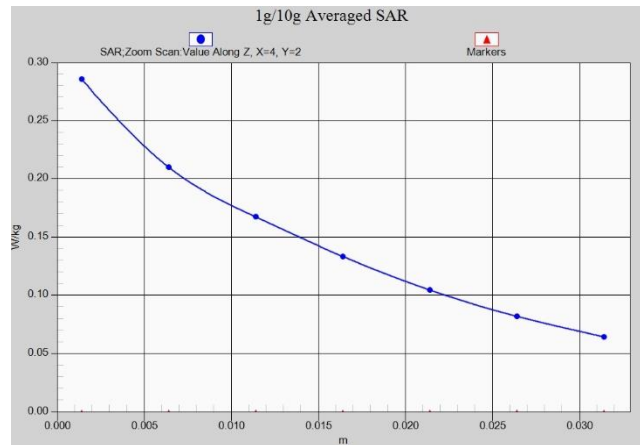


Fig. 1-19 Z-Scan at power reference point (LTE Band12)

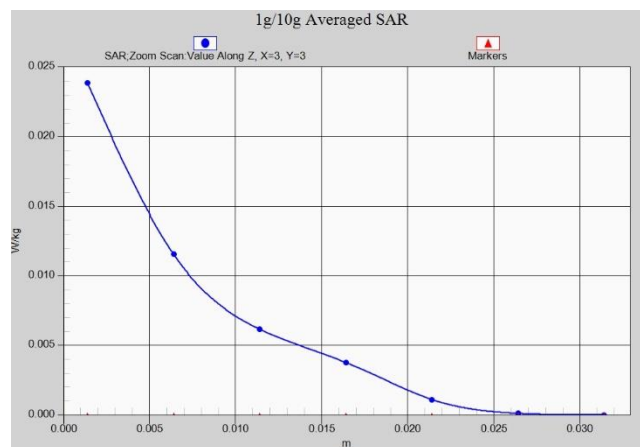


Fig. 1-20 Z-Scan at power reference point (LTE Band41)

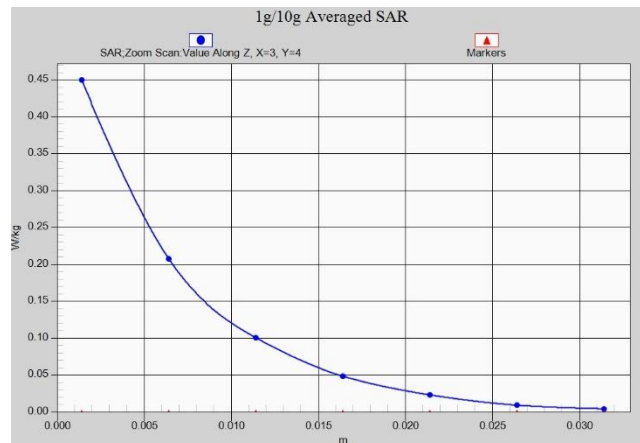


Fig. 1-21 Z-Scan at power reference point (LTE Band41)

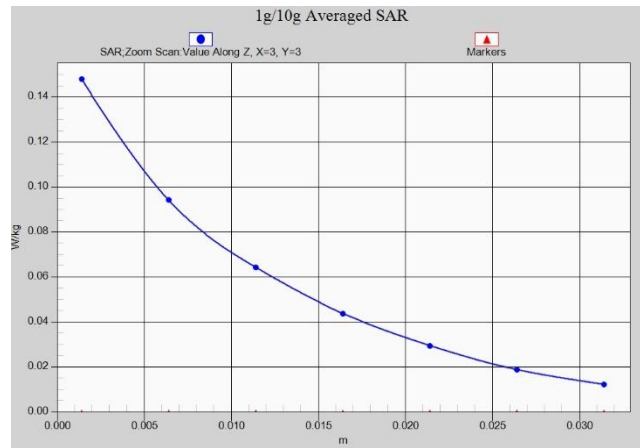


Fig. 1-22 Z-Scan at power reference point (LTE Band66)

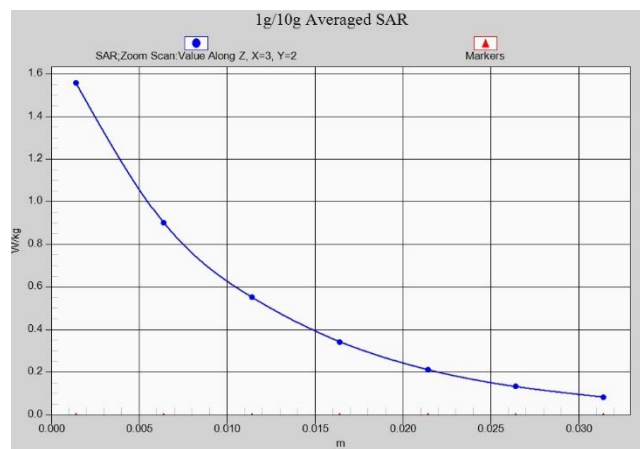


Fig. 1-23 Z-Scan at power reference point (LTE Band66)

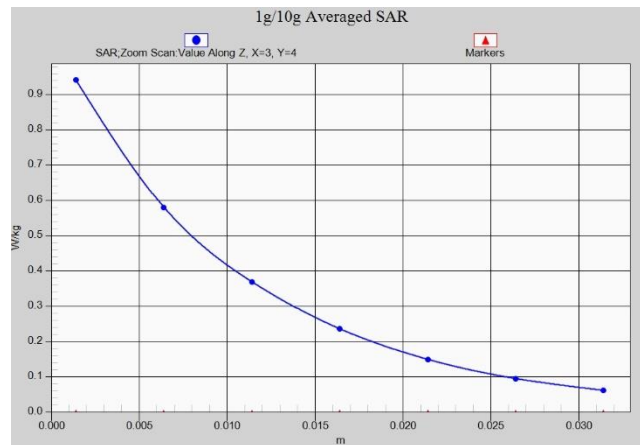
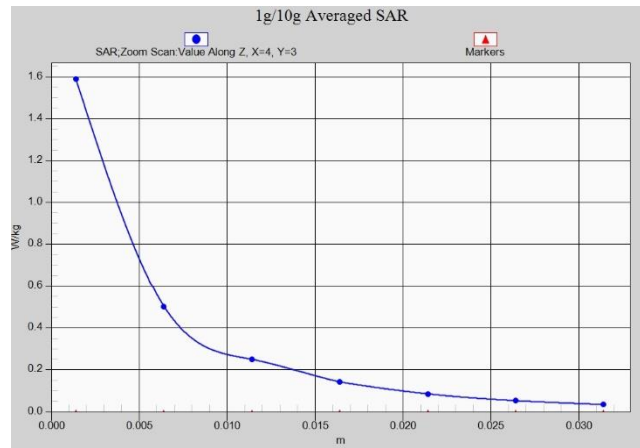
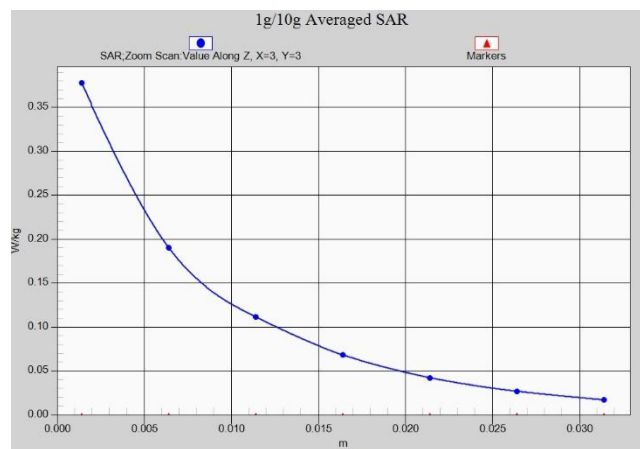


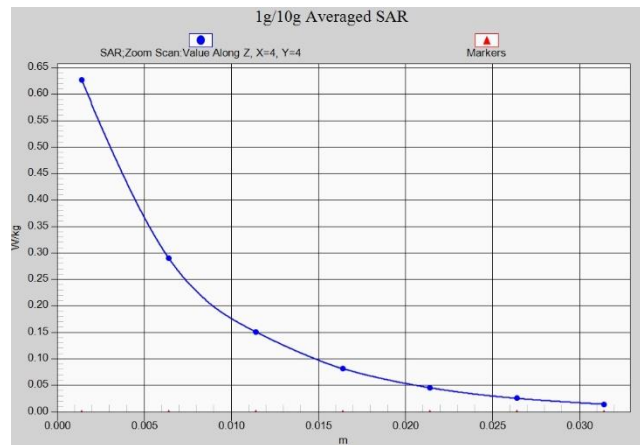
Fig. 1-24 Z-Scan at power reference point (LTE Band66)



**Fig. 1-25 Z-Scan at power reference point (850 MHz)**



**Fig. 1-26 Z-Scan at power reference point (850 MHz)**



**Fig. 1-27 Z-Scan at power reference point (1900 MHz)**

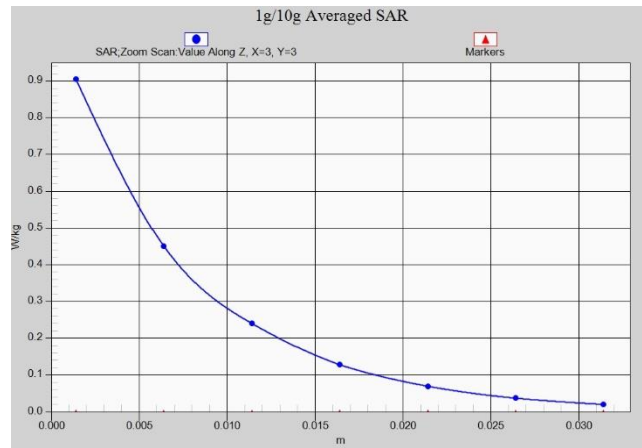


Fig. 1-28 Z-Scan at power reference point (1900 MHz)

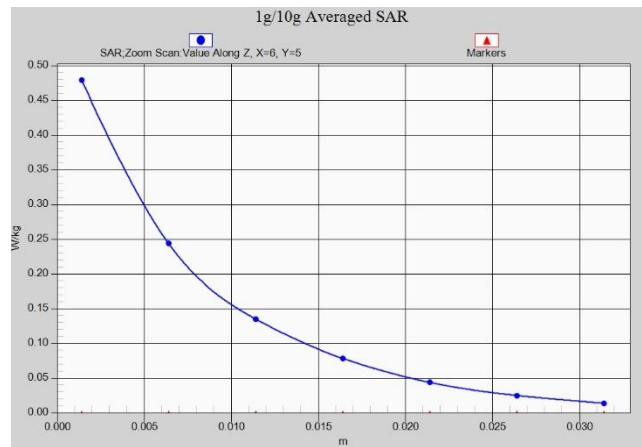


Fig. 1-29 Z-Scan at power reference point (WCDMA1900)

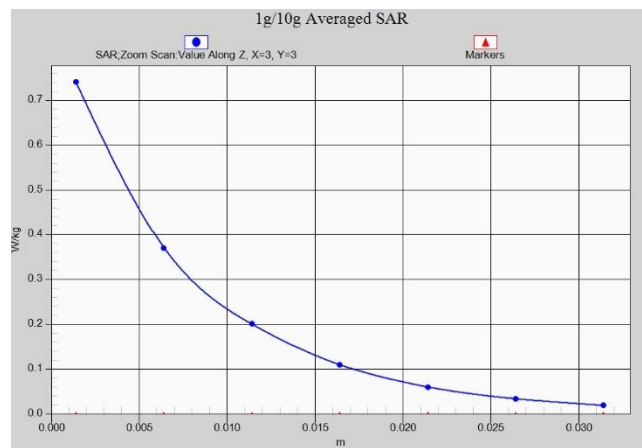


Fig. 1-30 Z-Scan at power reference point (WCDMA1900)